IDEAS

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The Northern Front

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Lister Sinclair
Ideas on the Northern Front. August 2, 1985:

Vince Carlin (CBC World Report)
Good morning. The controversial voyage of the Polar Sea. A Pentagon spokesman says it has a military purpose.

CBC Reporter
Lieutenant Allen says the Navy will use the data they collect for oceanographic studies and submarine warfare. This new development in the voyage of the Polar Sea raises a number of questions that may never be answered in public.

Lister Sinclair
Those questions, which we will try to answer in these programs, include: What are submarines doing in the Arctic? What's the connection between the Arctic and Star Wars research? What would we Canadians do with "sovereignty" if everyone agreed we had it?

Hello, I'm Lister Sinclair. And on Ideas tonight, tomorrow and Wednesday, our subject is the Northern Front. These programs have been prepared by a team of four people: reporters Kevin McMahon and Stephen Dale, analyst Peter Chapman and physicist Ursula Franklin.

Kevin McMahon
I'm Kevin McMahon. Here's the way these programs are organized. First, we're going to tell you about hardware. I think almost everybody finds nuclear missiles, supersonic bombers and laser guns frightening, so we'll get them out of the way first. Submarines, too, because both the United States and the Soviet Union have a great naval interest in the Arctic.

After we describe the hardware, we'll talk about the software -- the theories and strategies behind modern war preparations -- in other words, who wants to do what and how they think they should go about it.

Military strategy is mind boggling. As one person I talked to said, "Who can keep track of all this stuff?" But we'll try to keep it manageable. The DEW Line and the North Warning System, Star Wars technologies and their economic impact -- these subjects will lead us to the question: Whose north is this, anyway?

I'm going to let the first people here just talk without stopping to identify them. I'll introduce them to you later on.

Richard Fieldhouse
The United States and the Soviet Union both are moving in the direction of more Arctic operations. This is both air forces and naval forces. The most conspicuous and perhaps the most important element is the increased naval activity in Arctic waters, and both the United States and the Soviet Union have the capability of operating their ballistic missile submarines in the Arctic Ocean. They both are also operating attack submarines in the region, of course, to keep tabs on each other.

Owen Wilkes
As the Star Wars program gets underway, there will be a very much greater interest in military research in the Arctic, too. Obviously if you're going to have laser weapons for destroying satellites and missiles in mid-course and all that sort of thing operating in space, most of the missiles and things that they'll be directed at will be flying across the Arctic. Therefore these lasers have got to operate in that space environment that exists above the Arctic.

Kim Nossal
It's unlikely that the Canadian government would be willing to allow a large-scale militarization by the United States military of the north. We may get pushed to increase our own military presence in the north, and so it's possible that the north will become remilitarized, but by the forces of which state is I think up in the air at this point.

Ron Purver
We are already talking in terms of the forward deployment of interceptors against manned bombers. It will not take a very large military presence in the north to give one the sense that there are more Americans than Canadians in the north.

Ursula Franklin
The north has of course for a long time protected itself. The climate and its own characteristics have been its best defence and protection. But the North Warning System is in fact a protection for weapons systems and has to be viewed as that.

If one divides the world into the two major power blocs, the borders between those two blocs are

very heavily militarized. In fact, the major border, that of Europe, is so full of weapons that it begins to be very difficult to introduce any more weapons systems into it. That is so physically, there isn't much space left, and it is so politically in that every new weapons system including cruise and Pershing missiles is introduced with greater and greater difficulty from the people that those weapons are supposed to be protecting. The eastern flank is taken care of by the Chinese; the south, mostly the Middle East, is a weapons depot in its own right; but what is left is the northern front, the one and only area in which we do not yet find weapons systems stationed on the ground. For a long time the north has been a listening post and a natural barrier. This seems to change now.

George Lindsay

My name is George Lindsay, and my job is chief of the operational research and analysis establishment in the Department of National Defence.

Kevin McMahon

Dr. Lindsay, can you talk about how Canada views the Arctic in strategic terms?

George Lindsay

Canada has four frontiers, and the one to the south poses us with no defence problem. The one to the east over the Atlantic is certainly the most important one. It was in the last two world wars, and I'm sure our relationship with NATO makes the Atlantic the most important one. The one to the west over the Pacific is not as important as the Atlantic, but it might be one day. And then the one to the north is certainly the least important of the four as far as defence commitments and operations go, but it is the route between the two great superpowers, and that's where aircraft or missiles would have to pass, and it does pass right over Canada. So I would say our military interest in the Arctic is less than the other frontiers, but it is indeed important because of the fact that these aircraft and missiles would fly over those routes.

Kevin McMahon

The Canadian government's official view is that "the only major military threat to Canada is global nuclear war," and here the north is really important. This is Ron Purver at the Canadian Centre for Arms Control and Disarmament.

Ron Purver

It's a particularly sensitive area from the Soviet point of view because first, they have a tremendously long coastline on the Arctic. They really dominate the Arctic Ocean in that sense, and in a sense, it could conceivably become their soft underbelly. I mean, if American forces were deployed in the Arctic, they would be within striking range of very important targets within the Soviet Union — industrial and military targets — which is not quite the same case on the other side, where admittedly Alaska is a fairly valuable piece of real estate, but it doesn't represent the heartland of the United States the way parts of the Soviet Union which are in close proximity to the Arctic do.

Kevin McMahon

You could think of the Arctic as a buffer between the heartlands of the United States and the Soviet Union, a safe place in between. But the Arctic can't be a buffer if it's militarized.

George Lindsay

If you want to put installations on the land and carry out military operations, it's really become Allied territory rather than a buffer. I would regard a buffer more as a no man's land where nothing is happening, and Canada is not a no man's land where nothing is happening.

Kevin McMahon

But just what is happening, not only in the Canadian Arctic, but in the world's northern reaches everywhere? Owen Wilkes has the answer to that. He's a New Zealander, interested in the electronic systems that control nuclear war and provide the targeting data for nuclear war. He investigated this first in Norway, where he was arrested for revealing information about U.S. military systems there.

Owen Wilkes

So that led me to looking at the whole Arctic in general, and in some ways the Arctic is quite a militarized place as far as radars and all that sort of thing goes. Across the Arctic, you've got a lot of radar stations and similar kinds of surveillance systems. Looking at it from the American side, you've got the Ballistic Missile Early Warning System with stations in Alaska and Greenland and Britain which are supposed to detect any intercontinental ballistic missiles or anything coming over the North Pole from the Soviet Union

towards the United States. You've got the DEW Line radar system to detect bombers coming over Canada towards the United States and that extends into Alaska and into Greenland, and right across into NATO Europe, actually, right through Norway under a different name. The radar chains like the enhanced DEW Line radars are virtually enclosing the Soviet Union in all the most vital sectors. You know, you have the same kind of radars stretching right throughout NATO Europe known as the NADGE system and you have the BADGE system, so-called, running right through Japan and connecting up with the ones in the Arctic and so on. And then in the oceans, you've got listening devices for detecting submarines. Now, currently these are all serving war-like purposes. The American systems serve as an early warning system to detect a Soviet attack so that the United States can launch a counterattack, and they also have a certain degree of involvement in an American first strike. If the United States decided to hit the Soviet Union first with a nuclear attack, well then they would use these systems for gathering data for targeting their own missiles and so on.

Kevin McMahon
Flying missiles back and forth across the Pole would be one activity during a nuclear war. Another would be the firing of nuclear missiles from submarines. Both the Soviet Union and the United States have them, and they can blow you up from a very great distance away. The American strategy is to keep the Soviet subs as far away from the U.S. as possible. I talked to Richard Fieldhouse in Washington about this. He's the co-author of a book called Nuclear Battlefields.

In essence, is the United States trying to hem the Soviet Union in in the north?

Richard Fieldhouse
I think the short answer to the question is yes. The general naval strategy of this administration along with the secretary of the navy, John Lehman, has been to move forward. That is, not to rely on defending sea lanes or sea lines of communication with convoy escorts and things like that, but to move as close as possible to the Soviet homeland, to have naval forces near the Soviet Union, right in their backyard as the navy says sometimes, to go in harm's way, to sail their ships in close. And essentially the idea is to bottle the Soviet navy in, not even allow them to get out into the ocean where they could really cause a lot of trouble to our naval forces as well as to those of NATO. So the idea is to go as far forward as possible to prevent the Soviets from even getting out.

Robert Reford
Certainly the United States and Britain are naval powers and have been naval powers for a long time. The United States has free access to two oceans on both of its coasts, Britain is an island. The Soviet Union, if you look at the map, has access through the Black Sea to the Mediterranean -- not a very good way of getting ships out — and out of the Baltic through the Scandinavian countries. Then moving on, there is a large area between Norway and Greenland and Iceland, and access out of what they call the Greenland-Iceland-U.K. gap is possible but it's fairly restricted. Then, moving along, you can try to get out through the Canadian islands, through the Canadian Arctic, and going around the North Pole, the next place you have is the Bering Sea. Now, the Soviet Union does have some direct access from the Kamchatka Peninsula out into the Pacific, and then of course you have the Kuril Islands between Kamchatka and Japan, which give the Soviet Union control of access to the Sea of Okhotsk up there. Then when you get right down to the Pacific border and Vladivostok, the major Soviet naval base, is completely locked in by Japan all the way around. So the main way that the Soviet Union has access to the oceans is undoubtedly through the Arctic. The Arctic, of course, is covered with ice, so that means that it's difficult for surface ships. But submarines -- maybe that's a different story.

Kevin McMahon
You need a map for this program, don't you? Why don't you turn up the radio and go get an atlas while Joel Sokolski talks. He's at Dalhousie University in Halifax.

Joel Sokolski
NATO's objective is forward defence. Forward defence says that rather than waiting for the Soviet submarine fleet to come into the open oceans to attack NATO shipping -- and not just NATO shipping: the prime concern of the United States is its carrier battle groups, their vulnerability from Soviet forces — so rather than wait for that, you take the battle to them by forcing them to defend themselves within their coastal waters, and in that way maintain the

security of the carriers and the sea lines of communication. Secretary of the navy John Lehman has stressed a more offensive as opposed to a defensive approach to protecting the sea lines of communication. By the way, not all the NATO allies have signed on to this, as he puts it, because parts of it envision actually attacking Soviet submarines at their bases rather than waiting until they come out to sea. The problem is, when NATO starts moving its anti-submarine warfare assets very close to the Soviet Union, the Soviet Union gets very worried about the security of its ballistic missile submarines. And one arms control problem that emerges from ASW is that ballistic missile submarines are considered good for arms control because they're invulnerable, and because they're invulnerable, they supply a measure of stability. If, however, NATO is advancing ASW technology to the point where ballistic missile submarines become vulnerable in the same way that land based missiles would become vulnerable, according to the arms control groups that would destabilize the situation and would remove the invulnerability of ballistic missile submarines.

Owen Wilkes
As the Soviet Union becomes much less confident that its missile submarines are safe in the North Atlantic or the North Pacific, they're tending to keep more of their missile submarines in the Arctic. They're playing around with the idea of hiding their submarines under the Arctic sea ice. Obviously they're much harder to detect there because you can't just fly over the sea ice with an Orion or an Aurora and drop sonobuoys into the sea to listen to them. You've got to actually drill holes through the ice if you want to listen for those Russian submarines, and it becomes much more difficult for the Americans to chase after them. So that's one big way in which military activity -- maybe at this stage, we should say that military interest in the Arctic is increasing. The other thing is that in response to the Russians keeping their submarines up in the Arctic, the U.S. navy is becoming more determined to be able to operate at will within what would otherwise be Soviet sanctuaries in the Arctic oceans. So secretary of the navy John Lehman is pushing very hard to have the navy operating up through the Bering Straits and up in the Bering Sea.

Richard Fieldhouse
The Arctic is a really tricky place to have a submarine manoeuvre, and of course there's not a great deal you can do with a ship in the Arctic. That's the whole point of operating submarines there. Planes can't see through the ice very well, and ships can't manoeuvre very well because there's so much ice, but submarines can travel fairly unrestricted by other submarines' activities. The problem, of course, is that with all of the ice, you have these tremendous sort of daggers coming off the ice that sometimes come down a hundred, two hundred feet, and submarines can get trapped in the Arctic. It's a very dangerous environment to operate a submarine.

And from time to time, you have collisions of U.S. and Soviet naval forces, where a submarine will bump into an aircraft carrier. That happened in the Sea of Okhotsk last year, where a Soviet submarine collided with the U.S. aircraft carrier Kitty Hawk. In fact, the risks are so easily seen and so pronounced that the United States and the Soviet Union have had a series of annual conferences. This arose from the treaty called the Incidents at Sea Treaty. Basically the idea was since these navies do operate in and around each other, they wanted to make sure that they had a forum for discussing what they were doing and making sure that there was no missed signal, that nobody thought there was a war about to begin. So they've been meeting every year to discuss their naval manoeuvres and say look, you guys rammed us last year and we sure didn't like it, but we're not going to start shooting at you, or, the next time you do this, you so-and-sos, we're going to do that to you, and then to try to find ways of avoiding such incidents in the future. Well, this year, unfortunately, while the tempo and pace of these naval manoeuvres has increased, the U.S. and the Soviets have cancelled this year's Incidents at Sea Treaty meeting. They were scheduled to meet in early June and they haven't met, and they won't. And I take that as a rather ominous signal.

Robert Reford
The United States listening devices in Bermuda can pick up Soviet submarines when they sail out of the Norwegian Sea and follow them almost continuously, whereas the Soviet Union has never been able to follow continuously a United States submarine running submerged. This is what you read in the newspapers, but obviously a lot of this is very closely held secrets.

Kevin McMahon
One part of this operation is not secret, though the

Canadian Forces get a little coy when you ask them about it, because they'd like you to think it all has to do with search and rescue operations. It's called the Canadian Forces Supplementary Radio System, and what it actually is is a rather extensively electronic spying operation. It uses something called circularly disposed array antennas, enormous things about 500 feet in diameter, about two-thirds the size of the Great Pyramid, and much larger than a football field. There's a data processing building in the middle surrounded by two concentric rings of, as they say, "elevated tubular aluminum monopoles." My colleague Peter Chapman's got a picture of one here.

Peter Chapman
This is a high frequency direction finding antenna, and it's used to determine the direction from which a signal is coming and to record that. This one that I have a picture of here is located at Masset on Queen Charlotte Islands. Actually, it's right next to the Masset country club.

Kevin McMahon
And do we have others?

Peter Chapman
There are a number of other ones. There is the one at Bermuda, which is the only one located outside of Canada, and this one at Masset. There is also one at Alert, which is on the northern end of Ellesmere Island. There is one at Inuvik which is slated to be closed, this next year, and one at Gander in Newfoundland and one just outside of Ottawa.

Kevin McMahon
And who do these all spy on?

Peter Chapman
Well, they spy on, or they listen into all sorts of military communication, but primarily the Soviet Union. And in fact, there are U.S. military personnel located at these stations, and there's an agreement by which information is passed to the U.S. National Security Agency from these stations.

Kevin McMahon
Canada collects the information and gives it to the United States.

Peter Chapman
That's right. And that information is largely military communications and naval communications.

Kevin McMahon
They listen in on submarines.

Peter Chapman
It includes communication to submarines.

Kevin McMahon
Commands from home base kind of thing?

Peter Chapman
It would be largely communication to the submarines because the submarines don't tend to broadcast. That's a means of their hiding their location.

Kevin McMahon
On this question of submarines, Stephen Dale talked to submarine expert Joel Sokolski in Halifax.

Joel Sokolski
When the North Atlantic Treaty Organization was established in 1949, it was intended to have a maritime component, and Canada very early on dedicated its maritime forces to an anti-submarine role within NATO. Around 1956, Canada had about 40 anti-submarine warfare vessels.

Stephen Dale
Perhaps you could describe for me what role Canada takes today.

Joel Sokolski
Canada basically makes available to the Supreme Allied Command Atlantic most of its naval forces in the Atlantic -- its surface ships, the three submarines and the Aurora aircraft. They could be used in a number of different scenarios. They could, for example, escort American reinforcements to Europe in a traditional convoy escort role. Or they could be deployed along with other units into the Norwegian Sea to bottle up Soviet submarines attempting to enter the mid-Atlantic. Or they could be held back in North American waters for surveillance against Soviet submarines that might be approaching the eastern coast of the United States and Canada.

Stephen Dale
Could you elaborate a little more upon the

communications role which Canada takes in all of this? There are listening posts off the coast of Canada, I understand.

Joel Sokolski
The U.S. has a system called the SOSIS system which involves global ocean floor listening devices off the eastern seaboard of North America and also up towards Norway. Information from those posts is fed to the U.S. and is made available to other NATO commands, and I believe, although this has never been public, that Canada does have access to that information, that is to say, what's going on in the approaches to its own coastal waters.

Stephen Dale
SOSIS works in concert with airborne facilities. Could you describe to me the relationship between those two ways of operating?

Joel Sokolski
Well, SOSIS, for example, could pick up a signal indicating the presence of a Soviet submarine. It can only identify, let's say, within a range of 50 kilometres. At that point, an airborne unit might be sent out for localization. The airborne unit working in conjunction with SOSIS and in conjunction with the surface unit could help simply to localize the submarine. The airborne unit could drop its own sonobuoys for further identification. Now if they pick up a signal, the advanced technology will allow them to analyze the so-called sonar signature, which they would use to identify the class of Soviet submarine and, in some cases, the actual submarine itself. And all this is in a computer, and the aircraft would have access to that information so it could make an immediate comparison.

Stephen Dale
Beyond that point, if the situation with Soviet submarines were to develop into a situation of conflict, where does it go from there? Does Canada assume a role in that, in the destruction of an intruding submarine, for instance, or is that left up to its allies?

Joel Sokolski
No, Canada would have a role in the destruction of a submarine if the decision had been made to go to war. It does have an underwater weapons capability, it's improving that capability, acquiring new U.S. Mark 46 torpedoes. So depending on the circumstances, it does have a kill as well as a search capability.

Stephen Dale
In terms of distribution of resources, how much of the Canadian navy's resources go toward anti-submarine warfare?

Joel Sokolski
I would say it's a majority of the resources. Canada is an exporter of some ASW technology, mostly in the area of sonar. It's an exporter of technology, even though its own navy is rather small. That is to say, one wouldn't expect a country with a maritime force so small to be so advanced in this area. It's an exporter of this technology and certainly would share in any co-development that's being undertaken through NATO.

Stephen Dale
There's a lot of research and a lot of money going into the offshore oil exploration off the coast of Newfoundland and various other places. It involves technologies like new radars that can detect objects just above the surface of the water, seabed mapping, also more advanced sonar. I wonder if there's an overlap there, if that technology which is being developed for oil exploration is something which is vital and readily applicable to developments in ASW.

Joel Sokolski
Well, any technology that would make the seas more transparent would be applicable. If Canada's involved in that, there would be an opportunity for military application.

Kevin McMahon
At Nordco, a company with about 150 employees in St. John's, this is Frank Smith.

Frank Smith
We've done a lot of work in modelling of iceberg floes, pack ice floes, and forecasting the drift of icebergs. And we've parlayed that -- we have a strong group of software specialists and hardware specialists -- into onboard monitoring systems and prediction systems for the drilling rigs, for example, where they'll track the icebergs and then forecast the direction the iceberg will take.

I wouldn't want to say too much, but we sort of looked at methods of detecting icebergs on a long

range basis. We've been very interested in a sort of a 400 or 500 kilometre range with a technology developed from HF radio. We use sophisticated computer modelling to extract the target. And obviously those sort of long range sea level detection systems would have a lot of relevance for the military. In our case, we started off looking at icebergs, but you know with these low flying missiles and this sort of thing the further out you go, the less coverage you get on the lower altitudes using normal radar.

Kevin McMahon
From detecting icebergs to detecting cruise missiles. Richard Fieldhouse has some more examples of the Canadian connection with nuclear war planning.

Richard Fieldhouse
One of the features of Canadian assistance in studying and researching and aiding in nuclear arms issues is the fact that Canada has so much territory in the northern latitudes, way high up above the Arctic Circle. As a result, a great deal of research is done in those northern latitudes concerning things like communications. Do the communications satellites have trouble communicating in northern latitudes? Will it be possible to send signals to the bomber force? Will it be possible to determine small changes in the ionosphere? Things like that. Most people don't realize that high frequency communications, which is the bulk of military communications, are utterly dependent on the ionospheric state of affairs. If there has been a solar flare, for example, recently, then there's tremendous disturbance and it can completely cut off all high frequency communications. So there's deep interest in knowing exactly what will happen if there is not only something like a solar flare where you get a lot of disturbance that cuts off communication, but more appropriately, what happens if there's a nuclear explosion in space, which will also disturb space and the ability of communications signals to get through. And since Canada has so much territory in the northern latitude, where you have so many of these naturally occurring phenomena going on, Canada can uniquely participate in allowing research to be done, using effects such as the Aurora Borealis.

Stephen Dale
I think Canada is also contributing to the MILSTAR system. Can you explain that?

Joel Sokolski
Sure. As the U.S. currently has a number of satellites in orbit that are designed for military communications, some specifically for transmitting nuclear weapons orders and war orders, there is the question of the vulnerability or the ability of an adversary to jam the system or to interrupt its communications. As a result, the United States is moving to a satellite system called MILSTAR which will transmit on what's called extremely high frequency. That's the very highest frequency that is currently being used for military communications, but it's a bit experimental because they're still figuring out how it reacts and how good it is and how fast it can communicate and how much you can communicate over it and how easily can it be jammed, and all kinds of questions. MILSTAR will transmit over extremely high frequency wavelengths, and this will be the primary nuclear satellite, if you will. It's not powered by a nuclear reactor or anything like that, but its basic purpose is to transmit orders or messages from the president and the U.S. forces to the nuclear forces in the field or in the water. And so MILSTAR is a very important satellite for nuclear war.

Now, Canada's role in MILSTAR is basically again to help determine what the effects of satellite communications are in northern latitudes. What will happen if extremely high frequency communications are transmitted say to the bomber force as it goes from the bases in the United States, or Canada, to the Soviet Union? Will you have an interruption, or will there be clear communications? Canada has the northernmost active military facility in the world. It's called Canadian Forces Station Alert, and Alert is the closest military facility to the North Pole. As such, the United States sends signals from two experimental satellites called LES 8 and LES 9. These are basically satellites in polar orbit, that is, they go around the north and the south poles instead of around the equator, and they send signals down to Canadian Forces Station Alert to check the propagation, that is, how the signal goes, how it's received, what could be expected in an Aurora or other kinds of ionospheric disturbances. So as far as that goes, Canada is helping to develop a satellite that will be the primary nuclear weapons communications satellite in the next decade, and for quite a while thereafter.

Max Allen
I'm Max Allen. You really do have to look at a polar map to see how the arctic is arranged. Our usual way of looking at the world — through maps using Mercator projection — makes it seem that the world just ends somewhere in northern Canada. But a polar map shows that the world is just as "flat" and continuous from Alert to Murmansk in the Soviet Union, as it is from Regina to Winnipeg.

The distance from Alert, where American troops are stationed, to Murmansk, one of the major Soviet military nerve-centres, is a little over 1300 nautical miles. That also happens to be the length of the route over which the cruise missiles have been tested in Canada — down the Mackenzie Valley into Alberta's Cold Lake missile range. Perhaps this distance is just a coincidence — but if so, you wonder why they're building a 10,000 foot runway at Alert. What's being brought in that needs a runway nearly two miles long? There's a runway like that at Greenham Common in England too — where the first ground launched cruise missiles have been installed in Europe. The distance from Greenham to Murmansk (and Moscow) is the same as the distance from Alert to Murmansk (and Moscow).

In addition to American personnel at Alert, there are Canadians too. Some are working under the aegis of the Atmospheric Environment Service — that's part of Environment Canada, not the Department of National Defence; and some are 291ers, military intelligence specialists who work in association with the Canadian Security and Intelligence Service in Ottawa. One of their experiments — the one Richard Fieldhouse referred to — the High Arctic Defence Communications System, proceeds from a prefabricated shelter in the backyard of the Atmospheric Environment Service's weather station.

Owen Wilkes
Canada having so much northern climate and geography offers a great place to test cruise missiles which are supposed to be targeted at targets that might be in the north of the Soviet Union. One of the reasons that cruise missiles are tested in Canada is that they have to come over terrain that is very similar to that which would be found in the Soviet Union. You'd have a lot of snow and you wouldn't have distinct geographic features that aren't covered by snow.

But in addition to that, there are tests of systems that have to undergo what are called cold weather tests. The army tested what's called a projectile -- that's a fancy word for an artillery shell -- in 1983 that is designed to carry the enhanced radiation warhead that's also known as the neutron bomb. And that was given these cold weather tests in Canada. If you're going to be using a weapons system in northern latitudes, you have to go and test the system and make sure that when the cold weather comes that people could handle the shells and that the guns won't freeze up and that the shells won't crack and things like that. And so they had cold weather tests of these neutron bomb artillery shells in Canada.

There also have been tests of anti-submarine warfare systems that are nuclear capable, which means they are given a nuclear mission. There are two places over in the west coast of Canada by Jervis Inlet and Nanoose Bay where submarines and antisubmarine warfare weapons, things like the ASROK missile, are tested for their sound signatures, that is, how much noise do these things make, how do they operate in an environment that's very much like we would be using in war, how well do they find their targets, how detectable are they, how well do they sense what's going on around them -- things like that. How accurate are they. And so there are two stretches of water there where the systems are tested. So those are some of the examples of testing of nuclear weapons systems in Canadian territory.

Stephen Dale
You know, Canadians think that they are not really a part of the arms race, I think. It seems to be something that at the most we are sort of the victims of, in the middle, primarily I guess because we have no more nuclear weapons and we haven't thought about nuclear weapons in a long time. Do you think that this is a naive perception of our own role?

Joel Sokolski
I wouldn't call it naive because my experience has been that very few people have a deep understanding of how the arms race is played out in their territory. I also think Canadians have a pretty good reason for thinking they play no part in the nuclear arms race, namely, the Canadian

government has stated that its objective is to rid itself of nuclear weapons, i.e. U.S. nuclear weapons, and has done so. Last summer, the Canadian government succeeded in having the last of U.S. nuclear weapons removed from Canadian soil, thus making Canada a nuclear-free zone. There are no nuclear weapons in Canada. Now, if that's the stated goal — and the successful one, I might add, of the Canadian government — and it's touted as such, then people have I think a reasonable belief that they are at last rid of this nuclear burden and out from under the weight on their shoulders.

The fact is though that even though U.S. nuclear weapons have been removed from Canada, Canada still plays a role in the arms race, and Canada has a number of functions in the arms race relating to either participation in Norad which has a nuclear war dimension, of course -- that's the whole point of Norad -- to testing of the aircraft and cruise missiles and nuclear artillery shells and communications systems and early warning systems -- just on and on. But these are things that are so obscure, you don't see them or you don't understand them. If you're just driving by a place like Bagotville or Cold Lake, you don't necessarily understand what's going on there because this isn't something that the governments take much time to explain to the citizens, or in some cases, that the governments themselves understand fully. People don't really have a sense of this infrastructure because it's either invisible or it's obscure or it's technically sort of intricate and, my gosh, who wants to know, who can understand all this military talk and all these frequencies and electronic terms? What does it all mean?

Well, the fact is that the missiles and the aircraft that carry the nuclear warheads don't fly every day. We're not launching warheads against the Soviet Union nor are they against the United States. But every day, we are collecting intelligence, we're plotting new targets, we're chasing their submarines, we are watching their manoeuvres, we're sending test signals to our own forces, we test launch missles, we test aircraft. And the infrastructure itself, not the warheads alone, but the whole infrastructure itself is in operation 24 hours a day, around the globe. And I think because Canada is such an important ally for the United States, Canada has a unique position in terms of its ability to influence American policy. That is, if the Canadian government stood foresquare behind the policy that said come on, you guys, you can do something a little better here, you don't have to keep upping the ante in the nuclear arms race, there are alternatives, let's see something better. I think the United States certainly has to respond to that.

Kevin McMahon
Opinions vary about whether or not that will work. At the University of Toronto, this is Jack Granatstein.

Jack Granatstein
We came out of the Second World War looking for a new world. We wanted to be consulted when our interests were directly involved. And one of the reasons that Canada played a major role in creating NATO was to redress the balance in the New World by calling forth the Old World. We were going to use Europe to create a broadened allied relationship. It wouldn't just simply be us and the Americans, it would be us, the Americans and the Europeans, and we would probably have a greater voice because of that. Well, it didn't work that way.

By the mid-'50s it was already clear that NATO was an American dominated alliance. We got into Norad for roughly similar reasons. We thought that it made rational sense to cooperate in defending North America, and we also thought the best way for us to have a say was to be in a relationship that lay down by treaty, the areas in which we were to be consulted, that made clear that a Canadian was to be second in command of Norad and things of that sort. And it worked fine for the first few years. But Cuba, for example, came along, and Diefenbaker in 1962 felt that he was simply informed, not consulted, and I think he's right. The Americans, despite the fact we had this alliance, despite the fact there was the possibility of a Soviet attack on North America, if the Cuban crisis went wrong — the Americans only told us what they were doing, they didn't say hey, Canadians, here's what's happening, what do you think we should do. We were probably naive in 1957 when we went into Norad to assume that the Americans would consult on issues of great strategic importance to them. We were naive.

Alvin Hamilton
In 1957, in August, I was made minister of northern affairs and national resources.

It didn't take me long, however, to find out that we weren't in control of our northern areas on the sovereignty side. We had, when I first became minister, one full line of radar defences called the -- what is that northern line called? -- the DEW Line. And I found out that you couldn't move in the north unless you had permission from a private company called New Jersey Electric. And then I inquired well, who is this company? Well, they were given the responsibility by the American government for running the whole operation of the DEW Line. And there was evidence that I discovered that an associate minister of defence by the name of Campney in the St. Laurent government had complained and worked very hard to get Canadians with scientific ability and technical ability into the DEW Line stations so there'd be some sort of evidence that the Canadian flag was still in existence. But I went a different route. I just landed on those places without permission and told them to put up a Canadian flag higher than the American flag, and if they didn't have a Canadian flag, to pull down their flag. That this was sovereign soil of Canada, and every pebble was worth ten times more to me than the whole American people -- 200 million people.

Kevin McMahon
There's a story that one finds in history books that when you wanted to go to the north, you were told that you had to get permission from this company or from the military. Is that actually what happened?

Alvin Hamilton
Yes, that happened to thousands, all civil servants, ministers, even the governor general couldn't go.

Kevin McMahon
Did you actually physically go yourself to the north?

Alvin Hamilton
Oh, yes. I used go into these places and ask who's in charge here, and say you see that flag, where's your Canadian flag flying higher? And I told him he was on Canadian soil and he'd better get that flag down.

Kevin McMahon
After I'd spent some time with Alvin Hamilton, I went to see Ron Purver at the Canadian Centre for Arms Control and Disarmament. How much control, I asked him, do you think we have over what most Canadians think of as our Arctic?

Ron Purver
Not a great deal. I mean there have been public examples of that. A few years back a Polish yacht sailed into the Canadian Arctic zone before the government was even aware of it. Certainly it's easier to use Canadian underwater territory, if you want to call it that, in even less detectable ways through the use of submarines, whether they're conventional attack or nuclear missile carrying submarines or bottom crawling submarines of the kind that the Soviet Union has had snooping around the coast of the Scandinavian countries. All that sort of thing would be so much easier to do in secret in the Canadian Arctic. There may even be a question about the use of Canadian Arctic waters by American submarines -- the extent to which we're really aware of that going on.

Stephen Clarkson
By the normal definitions of sovereignty, you say that a country is sovereign if it can do what it wants to do. This version of sovereignty is that Canada is sovereign if we can do what the Americans want us to do, and that's essentially the pattern of all the defence systems that we've got into. The Americans say there's a threat from the Pole or there's a threat from the water or there's a threat from some other place, and then this is how we'd like you, Canada, to do your part -- the assumption being very clear that if you don't do it, we'll do it for you, and we will then control more of your space than we already do.

George Lindsay
I don't think in the Norad environment people pay much attention to which forces happen to have USAF stars on them and which have Canadian roundels. They're very much an integrated force, and they often go to the bases on the other side of the border, and they train together, and probably some of the crews in the AWACS would be part American and part Canadian. I don't think that people pay much attention to who's airplane it is.

Kevin McMahon
You'll remember that voice as belonging to George Lindsay, chief of operations and research at the Department of National Defence. And this is Kim Nossal at McMaster University.

Kim Nossal
We have to keep in mind that from 1957 onwards, with the signature of Mr. John Diefenbaker on the Norad agreement, we have effectively continentalized our air defence. Now we can for symbolic purposes have a Canadian deputy commander and this kind of thing. We can also insist on the right of both national governments to have their say. But effectively once you say that in the event of war or in the event of extreme crisis these two states will combine their efforts under one joint fighting force, you've essentially given away your capacity for fully independent and fully autonomous action. Diefenbaker himself found this out to his great dismay during the Cuban missile crisis in 1962, when Kennedy, as part of his strategy of opposing the Soviets at that time, ordered the Norad forces to go on alert. Diefenbaker very simply, not willing to do this, refused -- they were put on alert anyway by the Canadian minister of national defence and senior defence staff.

Jack Granatstein
One reason we got into Norad in 1957, of course, was because the Canadian air force and the American air force had been working towards that and had been manipulating the political situation to lead towards the creation of Norad. They wanted to cooperate. They still want to cooperate. They're the big players in the air force world, and our small boys want to be as close as possible to the big players because they get a nice psychic glow from that. And I have no doubts at all that, to cite a hypothetical example, that the air force commander at Bagotville in Quebec probably has an envelope in his safe called Contingency Plans in the Event of a Major War that he opens up and discovers that three squadrons are flying in from Plattsburgh, New York, and his job is to provide hot meals for the American pilots. I'd be very surprised if stuff like that didn't exist, and if the air force didn't know about it. Maybe the minister didn't, maybe the government didn't, but I have no doubts at all that the air force did.

Howard Green
Make no mistake about it, Canada's in the front line if there's a nuclear war, lying between the States and the Soviet Union. We're a first class target for atomic bombs. So we took the whole thing very seriously when. I was named secretary of state for external affairs in 1959.

Kevin McMahon
Do you see connections between what happened when you were minister of external affairs, with the question of independent Canadian action with regard to nuclear weapons in defence policy, and the current situation that the Mulroney government faces?

Howard Green
Oh, it's really all part of the same discussion. I'm amazed that in the intervening 20 years, there hasn't been very much done. And mind you, the defence people want the weapons, and I don't think they go to great lengths to explain to us where the end result is. And the poor politician who doesn't happen to be in the defence department, how is he to judge about what the final result is going to be if he doesn't get all the facts placed before him? It's a nuisance to do it, I suppose. Probably natural that they want to get all the weapons they can get. But I don't think that the other members of the government have always been thoroughly briefed on what the end result would be.

David Cox
The Canadian north and Canadian territory generally is the foreground for the United States as the United States looks at the Soviet Union and examines the possible attack routes from the Soviet Union. And it's unlikely that the United States could be persuaded by other countries, including Canada, that its judgement about that threat and the kinds of actions you have to take to counter it -- it's unlikely that they would think other countries' judgement to be better than theirs. Now that doesn't mean to say that they will try and come into the Canadian north without a by-your-leave and so on, but it does mean that the Canadian government generally has to respond to the initiatives and desires of the United States.

Kevin McMahon
Does that mean that Canada necessarily has to acquiesce to any demands by the United States as far as the Arctic territory is concerned?

David Cox
No it doesn't. But it means that there is always going to be a judgement about the intensity with which the United States sees a particular problem. For example, the United States wanted to build what was then the DEW Line, the Distant Early Warning Line, and the Canadian government took a very different view of the situation then in 1952-

53-54, believing that there was no immediate need for that warning system, and they dragged their heels for quite a long time. In fact, they built another warning system instead, the so-called McGill Fence across the 55th parallel, which was Canadian built and manned, in order to persuade the United States that they did not need that Distant Early Warning Line. But eventually, of course, as you see, it was built and is now being replaced. So it's not an open and shut case. It's not that every request has to be met, but that to oppose the fundamental needs of the United States, as perceived by American decision makers, would pose some pretty traumatic problems for Canada.

Kevin McMahon
And we'll talk about some of those problems tomorrow. Our program begins with what happened to the DEW Line and how it's being replaced -- David Cox just referred to it -- replaced by the North Warning System. The North Warning System agreement was the high point of the so-called Shamrock Summit in Quebec City in March. Remember it? It's when Prime Minister Mulroney and President Reagan had what looked like a wedding celebration. The touchy subject of Canadian sovereignty was never mentioned. This is Thomas Berger, who was royal commissioner on the Mackenzie Valley Inquiry.

Thomas Berger
There's been much talk about Canadian sovereignty in the Arctic. Many have said we should have protested the voyage of the Polar Sea, we must assert that the Arctic islands and the Northwest Passage belong to Canada. Well, maybe they do, but it seems to me we should be asking ourselves sovereignty for what? What lies beyond sovereignty? If we did achieve undoubted sovereignty over the Arctic and the Northwest Passage, what would we do with it? What are we going to do as stewards of the circumpolar basin? My view is that we should be thinking about ways to protect the Arctic and sub-Arctic environment, and we should remember that this is a task that really one nation cannot undertake by itself. It's an international undertaking.

Ursula Franklin
Yes, I'm most grateful that you say that, because in some of the thought that we have gathered, there is the idea of using the region around the Pole, regardless of what its current nationality is, as a demilitarized zone, a zone free from national competition. So Canada, I feel, can make an enormous contribution to peace by setting aside that zone in this spirit of stewardship that you mention — to be part of something that is not the competition between nation states.

Kevin McMahon
And we, Ursula Franklin, Stephen Dale, Peter Chapman and myself, I'm Kevin McMahon, will get to that subject on Wednesday.

Lister Sinclair
The Northern Front is a series of three programs produced for Ideas by Max Allen.

PART II

Jean Chretien
This morning the minister of external affairs, before the committee, said that no formal request had been received from the American government to participate in the Star Wars project . . .

Minister of External Affairs Joe Clark
The point that I have made in the House of Commons is because the Soviet Union is involved in their own research of a Strategic Defence Initiative kind, it is entirely prudent for the West to be involved in research of that kind.

Prime Minister Brian Mulroney
The government of Canada was the first to provide support for the United States of America on January 21, with regard to the research initiative that it had undertaken on SDI. Since that time, we were handed an invitation to participate on a government to government basis by Secretary Weinberger. And I have instructed the minister of defence today to advise Secretary Weinberger that that is not in our national interest and that we will not be accepting the invitation to participate on a government to government basis.

Lister Sinclair
Ideas about the Northern Front.

Jean Chretien
In reading the memorandum of understanding on air defence, I read that steps will be taken to allow fighter and AWACS operations, to have alert hangars, POL storage, missile ammunition storage and other necessary airfield upgrades. The agreement that was signed with the Americans this week would create in Canada a series of military air bases in the Canadian north without informing the Canadians in advance.

Lister Sinclair
In March, 1985, on St. Patrick's Day, Prime Minister Mulroney met President Reagan in Quebec City. That meeting was called the Shamrock Summit, and one of the things that happened during it was the signing of an agreement called officially Exchange of Notes and Memorandum of Understanding Constituting an Agreement Between the Government of Canada and the Government of the United States of America on the Modernization of the North American Air Defence System.

I'm Lister Sinclair, and on Ideas tonight we're going to talk about that agreement and the implications it has for Canadian sovereignty and the militarization of the Canadian north. These Ideas programs -- this is number two in a series of three -- are called The Northern Front. They have been prepared by a team of four people: reporters Kevin McMahon and Stephen Dale, analyst Peter Chapman and physicist Ursula Franklin.

Kevin McMahon
I'm Kevin McMahon. The next big war, according to the people who are planning how to have it, will involve weapons high in the sky -- intercontinental missiles and possibly ways of shooting them down, and also weapons closer to the ground -- cruise missiles that fly at treetop height and airplanes. If the Russians and the Americans start trying to dispose of each other, there's going to be a lot of traffic across the North Pole. The Americans are understandably eager to prevent relatively low-flying bombers and missiles from getting through. And that's what the Shamrock Summit agreement is about. The radar fence across the north, now called the DEW Line, is going to be rebuilt into a new system called the North Warning Line.

David Battye
My name is Brigadier General Dave Battye, and I'm project manager for North American Air Defence Modernization. The major part, as far as Canada is concerned, involves the replacement of radars along the current DEW Line and the addition of radars down the Baffin Island and Labrador coast. In addition to that, there will be upgrades required at some northern airfields to permit fighter operations into the area of the North Warning System.

Kevin McMahon
What will the system cost and what will Canada be paying?

David Battye
The North Warning System will cost approximately $1.3 billion in '84-'85 dollars, with Canada's share being in the region of $600 million.

Kevin McMahon
Can you describe what the long range sites will actually look like, what will be on the site, on the ground?

David Battye
There are two types of radar to be deployed as part of the North Warning System -- long range radars, of which there will be 11 in Canada, and short range radars, of which we anticipate about 36 to be deployed in Canada. The long range radar is built by the General Electric Company in Syracuse, New York, and will be provided by the United States Air Force. It's what we call a three dimensional radar. It gives us range, azimuth and height information, and has ranges in excess of 180 miles.

Kevin McMahon
Can you give us an idea of what the site will look like, how big the thing is? I mean, are we talking about something the size of a football field or the size of this room?

David Battye
The actual radar antenna will sit on top of a tower probably 45 to 60 feet high and will be encased in a radome. The equipment for the radar will fit in two floors of a 45 by 45 foot tower, and in addition to that, there will have to be living quarters for some 9 to 12, maybe even 15 people, depending on other aspects of the site, plus accommodation for diesel plant, kitchens, food and things like that.

Kevin McMahon
And when will the system be complete?

David Battye
We anticipate having a complete system, and that includes North Warning and upgraded airfields, by 1992.

David Cox
My name is David Cox. I'm a professor at Queens University. I am on leave from Queens and I'm acting as the research director at the Canadian Institute for International Peace and Security in Ottawa. I think it's fair to say that it's not so much the Soviet threat as technological change which has driven the interest in the modernization of the DEW Line. And it's fair to say that it's technological change introduced by the United States that has done it on two counts. First, the development of the cruise missile. Once the United States had developed a cruise missile to be air launched by an intercontinental bomber, then it was probably almost inevitable that the Soviet Union would do the same, and therefore a new kind of threat was posed to the northern approaches across Canada. And secondly, in the present situation, the possibility that the United States will deploy some form of a ground based antiballistic missile system increases the importance of the bomber as a threat, and therefore directs attention again to air defences.

Kevin McMahon
Just to put that another way: if the United States starts working on a system to make America invulnerable to missile attack, the system that they're calling SDI or Star Wars, then you'd expect the Soviets to work on a way to get around it. One way is to fly underneath, and it's to prevent that that the North Warning System is being built. An American air force general has said if you're going to fix the roof, you don't want to leave the doors and windows open.

Ron Purver
My name is Ron Purver. I'm a research associate at the Canadian Centre for Arms Control and Disarmament. Recently there's been a renewed emphasis on the so-called air breathing threat, on strategic bombers on both sides. The Americans have committed money to the development of the B-1 and to an advanced technology bomber to follow that. The Soviets for their part have continued to modify some of their older systems and are also introducing a new strategic bomber of their own called the Blackjack. And this is associated with developments in cruise missile technology, of course, as both sides are beginning to equip their bombers with air launched cruise missiles. And it would seem that in so far as air forces are concerned, the importance of the Arctic will again increase, perhaps to the extent or even beyond what it was in the late '40s, early '50s.

Kevin McMahon
What might these bombers and cruise missiles be used for? Certainly not to start a nuclear war, because they're both too slow.

David Cox
The air launched cruise missile which the Soviet Union deploys, assuming that it looks rather like, in terms of capabilities, the present generation of American air launched cruise missiles, would be subsonic and possibly have a range of about 1500 miles. So that one can imagine it being carried by subsonic bombers and launched at something like the latitude of Yellowknife. Because the bomber has to take off, it's got several hours of flight before it launches the missile. And because the cruise itself is subsonic at 500 miles an hour and would take 3 hours, let's say, to reach its targets, there is so much warning time, assuming one can identify it, that it is not feasible to think of it as a first strike weapon, even though it's very accurate. The first strike weapon has to be both accurate and have a very small warning time.

Kevin McMahon
So, with the long warning times we'd have, if bombers and cruise missiles attacked North America, there would be plenty of time to send out fighters to shoot them down. This kind of response is called active defence, but it requires that the American fighters have bases to fly up from -- and the further north, the better. And if you want to shoot down the giant intercontinental ballistic missiles, you need someplace to do that from, too.

Douglas Ross
We're going to end up with, I think, a world in the 1990s and beyond in which ground base defensive deployments may be an option.

Kevin McMahon
Does this have implications for Canada?

Douglas Ross
Yes, I think it does. If you start making even limited defensive deployments, the almost certain result will be that the adversary will expand their offensive forces or try to improve their qualitative effectiveness so that they will be able to fly through or around or somehow bypass the active defences and carry out their assigned destruction role.

Kim Nossal
The real danger is that the NWS will become the basis for the kinds of weapons systems that are envisioned as being part of a ballistic missile defence system. For example, these new magnetic rail guns, the particle beam accelerators, laser weapons -- these potentially could be put into the north. But I think it's important to keep in mind that regardless of what the Americans decide to do on Star Wars technology or various initiatives against ballistic missiles, American strategic planners will argue that there is still a need for a defence against cruise missiles, and against armed bombers.

Kevin McMahon
When you talk about defence in this context, are you talking about a detection capability?

Kim Nossal
I'm talking not only about detection, I'm also talking about interception.

Kevin McMahon
If the Americans decide to try to intercept, which I understand to mean stop bombers and cruise missiles, it seems to me inconceivable that they could do that in any other way at an early enough point to matter than to have those systems based in the Canadian north, amongst other places.

Kim Nossal
There is absolutely no coincidence that the North Warning System has as part of its feature the upgrading and building of a variety of new airfields in the north. Quite clearly, the interception capacity, at least using fighter interceptors, is being moved very much further north than it at present is.

Kevin McMahon
That was Kim Nossal at McMaster. Another strategic analyst, this time at York University, is Martin Shadwick.

Martin Shadwick
In the short term, there is no link between the North Warning System and those other improvements such as AWACS and so on, the ones that were announced in the March 1985 Quebec summit. There is no link between that package of improvements and the Strategic Defence Initiative or Star Wars. In the longer term, however, and Star Wars is projected as a 20 year down the road proposition, so if we're speaking of 20 years hence, there are some concerns there that will have to be addressed.

Douglas Ross
The current upgrade is really only an interim scheme. It is to tide North American defence planning over until the arrival of satellite based warning systems which American scientists hope will be deployed perhaps by the middle to the end of the 1990s. If the Strategic Defence Initiative goes foward very vigorously, many of the surveillance and tracking technologies which will be developed under SDI will be very relevant to space based warning, both for missile attack and bomber or cruise missile attack. And so, many American officials in the defence community say let's not waste this money now, let's just redouble our efforts to come up with these new space based systems. One of them is designated Teal Ruby, it will be an infrared tracking system. It's going to be tested probably later this year, early next year. There are new types of special radars which will be mounted on satellites which will have the capacity to track very small flying objects in any kind of weather, any kind of adverse weather. So this kind of new capability is seen as being just over the development horizon, so why spend a whole lot of money now on relatively primitive systems which are relatively vulnerable.

David Cox
I think the next critical step is the experimental launch which is now scheduled for early 1986 of a satellite which is called Teal Ruby. That satellite is to be launched from the space shuttle, and it's an infrared imaging satellite which will be more or less poised over Canada. And the question is, will that statellite be capable of imaging an object as small as a cruise missile. If it's capable of doing that, then we'll go from the experimental, to the developmental and deployment stage. And at that point, the United States will clearly have a capability to defend against the cruise and of

course against the manned bomber. So that's the next step I would see.

We're looking at three related programs. The first is the North Warning System, the second is the over the horizon backscatter radar. These are very long range radars based on the east coast and the west coast, and they are able to reach out 1200 to 1500 miles. They are also vulnerable. So it's when you get a space based imaging satellite which can identify the cruise that you will have put in place the elements of an integrated surveillance system. And indeed at that point the North Warning System, if perhaps slightly obsolescent by then, will be a part of that active defence capability.

Kevin McMahon
Do you think the Canadian government is sufficiently cognizant of where these developments are heading? I mean Canada's declared policy is to support mutual assured destruction, and it seems that all of these developments are heading on quite a different path.

David Cox
I think that successive Canadian governments have been exposed to a kind of incremental approach. For example, the North Warning System basically was agreed to in 1978, and at that point, there were very few people who argued that there was to come a coherent war fighting doctrine and operational deployment. It's now seven years later, the North Warning System is about to be deployed, and this government is only belatedly aware of its longer term implications. But it is already, as was its predecessor, fully committed to it, in the old terms. Now at what point you try to halt that incremental process and say this is quite incompatible with what we thought we were doing, which was providing surveillance in order to maintain a doctrine of mutual assured destruction — at what point you do that is always a critical political choice. In my opinion, the critical political choice for Canada will be when there is a step which involves a major American military presence in this country.

Kevin McMahon
David Cox and I were talking there about MAD, Mutual Assured Destruction. That's the technical name for the situation that is supposed to keep both sides from starting a fight. If one guy does start a fight, he knows that the other can hit back hard, that no first strike can entirely destroy the other fellow, and that retaliation will be fierce. That's been the setup for years now, but Washington is trying to change it. Previously, neither the Soviet Union nor the U.S. could shield itself from either a first strike or from retaliation. But what if SDI, the Star Wars idea of a protective umbrella over the United States, what if it's put into place? Then the rules of the game called MAD change. If you're a Soviet war planner, it looks like the U.S. might be preparing to strike first and to not be hurt by your retaliation. This Star Wars problem and the possibility that the North Warning System may be leading us right into it is really a tough one. So here's Douglas Ross at UBC to go over the ground again.

Douglas Ross
How do we react to these new surveillance technologies which are going to be space based? Do we want to get on board? Many people in the defence community in Ottawa are very enthusiastic about that, primarily for reasons of cost. Space based surveillance will be enormously cheaper. It will also be theoretically far more effective than highly expensive and vulnerable ground based systems. The downside of relying on the early development of these technologies pertains to the fact that these systems if developed may be destabilizing.

Many of these new systems raise the prospect that a first strike may become feasible for one or both sides. They also raise the prospect of many new systems being deployed which will have to react in crises so quickly that they will in effect require that human decision making be defined out of the whole process, and that there will have to be, in other words, fully automated defence responses. And this of course raises the risk somewhere over the time horizon of, say, 1995, of wars that might be started by the machines up in space. And that raises questions such as well, if it does start up there and there's satellites attacking other satellites, mistaking them for ICBM warheads, will the planners on the other side say aha, this is the beginning of an attack, we have to go now very quickly with all we've got?

The new technologies are not necessarily leading us towards a world of greater strategic stability. They could be leading very much towards a world of nuclear hair triggers in which the arsenals are

certainly the most vulnerable elements, and the arsenals on both sides are poised constantly on alert for sudden launch in something under 5 to 7 minutes. The Soviets have made much in the last three years of the risk posed to them by the Pershing II missile, the 108 launchers which will be deployed in West Germany which will have a flight time of about 10 to 15 minutes and maybe will be subject to only a 5 minute warning time for Soviet air defences. Now the Soviets ask how can we possibly put our forces on a credible retaliatory footing in which the highest levels of political leadership will be charged with authorizing retaliatory response — when we've got something like 5 minutes, 5 to 7 minutes warning time to do it. We won't be able to do it. Either our response will have to be fully automated, or certainly it will have to be fully preplanned, and the authority to retaliate, in single quotes, will have to be predelegated to various military commanders.

It's a problem which we face in North America as well because of Soviet submarine launched ballistic missiles which are stationed very close to both coasts of the United States. The problem with having this predelegation of authority to launch, to launch on warning, is that the risk of an accidental war goes up dramatically once such procedures are implemented. Some Canadian defence community people think that in effect the American ICBM force is currently on a launch on warning posture. If that is true, we are living already in a nuclear hair trigger world, and this is a state of affairs which we in Canada should work very hard to reverse.

Now in practical terms, how can we do this? One of the most important principles I think on which we can build Canadian policy is the notion that the arsenals, the strategic arsenals, should be kept as widely separated as is politically and militarily feasible. The more they are separated, the less likely there are going to be fears of decapitation and mop-up scenarios in areas which will then in turn trigger launch-on-warning postures which will raise the risk of accidental wars. As soon as radar systems malfunction and false attack signals are sent through the system, if the launch on warning command is already in the system, war starts.

Kevin McMahon
In Washington, this is Richard Fieldhouse, co-author of a book called Nuclear Battlefields.

Richard Fieldhouse
The way Canada participates in all of this, of course, is that by virtue of Canada's location, directly above the United States, an awful lot of U.S. forces are going to be flying over or way over, as in the case of missiles — they'll be flying hundreds of miles up above Canada on their way to the Soviet Union. The bombers will fly into Canada in some cases for dispersal, and certainly will cross Canada on their missions across the Arctic to the Soviet Union. Air defence systems, including planes, the interceptors, both U.S. planes and Canadian, the CF-18 aircraft, are all going to be operating in the North American environment. There will be AWACS planes flying all around in these early warning systems that are in Canada. So all of these things are basically part of the system of preparing for and actually fighting a nuclear war.

Douglas Ross
If you are trying to stop any and all Soviet aircraft, the battleground would be in the high Arctic. If we spend billions upon billions on dramatic improvement of our active defence capability, what would the Soviet planners think? Why are they doing that? That system can't be used as an adjunct to a retaliatory policy. In fact what they're doing is planning to strike us first. Because the system would work if large chunks of the Soviet command system had been first attacked and dismantled and destroyed by American ICBMs, by Pershing missiles based in Europe, by new Trident II missiles deployed offshore from the Soviet coast. Any Soviet planners would have to look at extensive forward deployments of active air defence as a provocative adjunct to a first strike strategy.

Kevin McMahon
Now, I know it sounds crazy to say that defensive deployments in the far north are threatening, but it's true because of what they imply about war plans. You see, a Soviet first strike would simply destroy most of the forward based active defences like sitting ducks. They wouldn't survive to retaliate. So they can only be useful against an already decimated Soviet force, that is, one that's already been attacked.

Some people spend their whole lives figuring out things like this. One of them is in Ottawa. He's a pleasant fellow named George Lindsay. He has a big office in an old armory with dozens of model

airplanes hanging from the ceiling. George Lindsay is chief of operations and research at the Department of National Defence.

George Lindsay
The Strategic Defence Initiative is a research program which will investigate all sorts of possible forms of ballistic missile defence. And I'm sure some of them will turn out to be impractical, some of them will turn out to be so expensive that they won't be pursued. Some of them may turn out to work rather better than what's expected today and perhaps some of them will eventually be deployed. Now, unless you know what kind of system it is, it's futile to say where it would go in the world. However, since a good bit of the trajectory between the Soviet Union and the United States lies over the Arctic, it seems to me not impossible that some of the components would be on the surface in the Arctic, whether over the ocean or in Canada. But no one can forecast that sort of thing without knowing which components might eventually deployed, and we don't know. Perhaps none will be. Perhaps they'll be at one end of the trajectory, perhaps at the other, perhaps in the mid-course.

Kevin McMahon
Mid-course is the word you want to worry about here, because mid-course means us -- Canada.

Ron Purver
Traditionally Canadian government policy has been not to have anything to do with the actual siting of American weapons installations on Canadian soil in that context. The Norad renewal of 1967 allowed for Canada to opt out of the ballistic missile defence system that was then going ahead in the United States. Now we've seen more recently, even the Mulroney government in Canada is concerned about any suggestion that even conventional ground to air defence missiles would be emplaced in Canada.

There may well arise the need, which has been admitted by the defence department officials, for the direct use of Canadian territories in support of those kinds of ballistic missile defence systems, where they would attempt to intercept the incoming warheads just before they re-enter the atmosphere. And there could be a need for sensor facilities or even for interceptor missiles themselves, or some kind of interceptor devices on Canadian territory, and that could be coming as early as the 1990s. So obviously we have to be concerned about that. Traditionally we've been opposed to this kind of thing. We may face some very hard choices within the next decade.

Kevin McMahon
One choice might be to work toward demilitarizing the Arctic instead of adding more weapons there. A proposal along these lines that starts with the various radar and electronic eavesdropping systems in the Arctic has been published by Owen Wilkes.

Owen Wilkes
My proposal is that one way of effectively demilitarizing the Arctic and thus making it a more secure place for the people who live there, and at the same time making a contribution to global peace and disarmament, would be if all these surveillance systems in the Arctic could be taken over for totally peaceful purposes, and my idea is that they would be best nationalized, if you like, by the peoples who are living in the area. The people of Greenland should take over the ballistic missile early warning station and the DEW Line radars there, and the people in the Faeroes and in Iceland and in northern Norway and maybe Scotland should take over the installations there, and similarly for Alaska. And I know politically this is a little bit naive, but I think it's worth coming up with a rather naive political idea to get a feel for the subject and then you work out something which is a bit more feasible. If all these systems are taken over by the local people and they were continued to be operated, but they were operated in such a way that the data from them became available to everyone, if the data was openly published or available online through a communications system or something like that, this would serve for us to see if either side was thinking of starting a nuclear war; and if neither side was thinking of starting a nuclear war, well, then we would know that we could relax in our preparations for fighting a nuclear war.

If you look at a map of the Arctic, a map which looks down on the North Pole, you find that there is a reasonably symmetrical distribution of the surveillance systems that I'm talking about, that they are roughly halfway between the Soviet Union and the United States. So that turning the information from these systems over to the public and making it equally useful by both sides doesn't favour one side or the other particularly.

So I think it'd be a very good way of making a nuclear first strike much less attractive to either superpower if they knew that any preparations they were making were being closely monitored and would be published. If the Soviet Union were to launch a first strike against the United States, for example, one of the first things they'd have to do would be to sneak out a whole lot of their nuclear missile submarines from Murmansk in the Arctic, down through the North Atlantic gap, the so-called Greenland-Iceland-United Kingdom gap, into the North Atlantic, where they would be within range of the targets in the United States. And a demilitarized Arctic in which the surveillance systems were open to everyone would note this happening and would report it, so that we'd all know what the Russians were up to. Similarly, if the United States were thinking of launching a first strike against the Russians, one of the things they'd have to do is get all their hunter killer submarines or all the Atlantic ones would have to be got up into the Arctic so as to try and knock off the Russian missile submarines which were lurking in the Barents Sea, around Murmansk. And so once again, that activity would be reported. It's not a perfect solution in any way, but I think it's a lot better than the setup we have there at the present time.

Ernie Regehr

Canada's role should be to use its territory in such a way that neither the United States nor the Soviet Union can take advantage of Canadian territory -- that space between the two major powers -- so that neither of the can take advantage of Canadian territory and by virtue of that, threaten the other side with a pre-emptive strike. In other words, Canadian territory has to be denied to any strategic power that wishes to develop a first strike capability. It doesn't matter whether it's the United States or the Soviet Union. Canada has an unusual responsibility in the strategic arms race in that it can add stability by understanding clearly what is taking place in its territory and making that information available, providing assurances to both sides that they are not being taken advantage of by virtue of Canadian territory.

Peter Chapman

What you're suggesting is a North Warning System, but under international regime, not operated on behalf of either superpower.

Ernie Regehr

In fact, the most creative and exciting thing that Canada could do would be to develop an effective both space based and land based surveillance system which was not tied into the combat forces of either of the belligerents, but was made available to both of the belligerents for the purpose of understanding the movements of the other side and therefore creating a situation in which some sort of agreement and detente between the two sides could be advanced.

Peter Chapman

Is it possible to internationalize the Canadian Arctic in that sense, to remove it from the U.S. sphere of influence, or will there be tremendous repercussions that Canadians can't bear?

Ernie Regehr

I think that the options for Canada are in fact realistically wide open.

Kevin McMahon

But unfortunately, the basic arrangements behind the new North Warning System are pretty firmly entrenched.

Kim Nossal

Despite the change in name and despite the change in hardware, the fundamentals haven't changed from the days of the 1950s when the St. Laurent government negotiated and the Diefenbaker government approved the Norad agreement. Basically a decision was made by Canadian governments at that time to continentalize defence against airborne threats from the Soviet Union and from elsewhere. And that fact hasn't changed. So that once into a continental system, the Canadians really -- they of course have the option of saying no, but the costs of saying no would just be intolerable for any Canadian government really of any political stripe.

Kevin McMahon

The political costs.

Kim Nossal

The political costs, the economic costs, the electoral costs. Certainly any government wanting to get something out of the United States the way this government does in terms of its much vaunted desire for some form of trade enhancement with the United States -- that just isn't a possibility.

Jack Granatstein
One of the books of the late 1960s on Canadian foreign policy, if you remember, was called An Independent Foreign Policy for Canada? with a question mark at the end. I had no doubts that the answer was that there could be an independent foreign policy. I'm afraid that in the intervening 15 years, most of my ideas have proven to be wrong. There's really, as far as I can see, little desire on the part of the Canadian public and not much on the part of the government to get involved in peace keeping. I don't see this as a popular role for Canada or Canadians. Our current government is more interested in seeking an economic link with the United States than it is with anything else, as near as I can tell. What I'm saying I guess is that in the intervening 15 years since that book was written, it seems to me that our freedom of action has if anything been greatly constrained.

Kevin McMahon
What's happened is that first we hooked into the weapons systems. Then we found out that not only had we bought into the policies that came with those weapons, but also that we can't distance ourselves from those policies now, even if we wanted to. You buy the hardware, you get the software that comes with it, and vice versa. What's more, there's a whole new set of weapons systems on the way.

If the time comes when the American military and the American government feels that it must have these systems, will then Canada have the option of saying okay, sorry, this is as far as we go? Or, well, what would you imagine Canada's options to be, I guess, at that point?

Kim Nossal
Let's put it this way. We always have the option. The perpetual question is does any government in Ottawa want to take the cost of exercising that option that is granted to the government of this country. And my estimation would be if by the mid or late 1990s, we're talking about an American request or simply an American assumption that these systems would go into the north, my own feeling is that a Canadian government would not have an interest in exercising the option that would simply close the Americans down. Particularly not if right from the word go in 1985, the government has been humming and hawing about the potential economic spinoffs of SDI research and this kind of thing.

Max Allen
Humming and hawing is a good way to describe it. I'm Max Allen...

Peter Chapman
... and I'm Peter Chapman...

Max Allen
... and for the next few minutes what we're going to talk about is money. Money seemed to be one of the initial attractions of Canadian involvement in Star Wars research. Ottawa sent a study team out on the road this summer to find out what Canadian industries thought of participating in Star Wars. But the notion that anybody in this country is going to get rich doing this work — or richer, in the case of military industries — really is a red herring, I think. Star Wars research, if we do any, is simply going to boomerang on us economically. We'll try to describe how that's going to work in a minute. But I think most Canadians don't realize how much military activity we're already involved in. Peter, you've made something of a study of this.

Peter Chapman
Well, Canadian defence expenditures this year will be just under ten billion dollars. That's about seven percent more than it was last year.

Max Allen
That ten billion dollars — what percent of the government budget is that?

Peter Chapman
It depends on how you count it. If you count total government spending, it's about nine percent. If you just count discretionary spending, that is if you take away interest charges on the public debt...

Max Allen
... and transfer payments to the provinces...

Joel Sokolski
Yes, transfer payments to the provinces, and some crown corporations, and you just count the money that's called discretionary funding, then the Department of National Defence's share of the federal budget jumps up to forty percent.

Max Allen
Forty? OK.

Peter Chapman
Now that's partly because the Department of National Defence has the largest civilian payroll of any government department...

Max Allen
That doesn't count the troops.

Peter Chapman
No, not counting the troops. And if you're looking at capital expenditures, fifty percent of all government capital expenditures are military expenditures. Fifty cents out of every dollar that the government spends on capital goods goes to the military.

Max Allen
When you started to look into how much military expenditure there is in this country, where did you get the statistics?

Peter Chapman
The first place I went to was the government Estimates, and that gave me the amount of spending in each year. But I also wanted to break it down some other ways, particularly to look at Canadian expenditures compared to other NATO expenditures. So I called National Defence to get some information, and they didn't have that and said they'd get back to me. In the meantime I called Washington, D.C., because I often find it's easier to get information about things in Washington, and found some figures from the Arms Control and Disarmament Agency, which is part of the U.S. State Department. And they had all the figures quite precisely there.

Max Allen
About Canada too.

Peter Chapman
Canada, yes, and each country per capita. National Defence, in all fairness, got back to me with some figures, but all they had was a press release showing how piddly Canada's military spending was, in their view. And they didn't have all the figures, so as is often the case, I got the figures by asking in Washington.

Max Allen
Ottawa's view was: we'll put the figures together in such a way that it looks like we're not doing our part?

Peter Chapman
That was the tone of the press release, yes.

Max Allen
We've often heard the argument, particularly this summer, that military spending is good for employment — it creates jobs. And that was especially going to be the case with Star Wars research. But you talked to Ernie Regehr about this.

Peter Chapman
Ernie Regehr is the research director for Project Ploughshares, which is the task force of the Canadian churches on disarmament and development.

Ernie Regehr
If you're trying to use job creation as a kind of icing on the cake and therefore move towards Star Wars participation, then you have to ask whether the jobs that will be created then are greater or less than would be created if the money were spent elsewhere. Well, that's easily calculated in rough terms. The Canadian commercial firms have received research and development contracts from the U.S. defence department recently, and they work out generally to providing a job for every $200,000 spent. That creates one job for one year. It's obvious that if you were to spend that money on direct job creation through Canada Employment and that sort of thing, you would probably be able to create five time as many jobs with the same money, and you would create those jobs in lower skilled areas where the unemployment problem is the most serious in this country. Whereas if you spend it on Star Wars and create highly technical scientific jobs, chances are there is going to have to be recruitment in Britain and the United States in order to find people to fill those jobs. So that Star Wars research clearly is not a means of solving the unemployment problem in Canada.

Peter Chapman
Is it a means of sustaining high technology industry in Canada?

Ernie Regehr
Well, the representatives of the aerospace industry have also doubted whether that in fact is

the case. The problem with Canada bidding on small chunks of major research and development projects which are centred in the United States is that you work in very confined and restricted environments. That is to say that the major system is already developed, and in fact representatives of the industry have on a number of occasions, including to the House of Commons, said that what Canada tends to get under these arrangements is the technological scraps.

Mel Watkins
If you put your money into missiles or northern warning systems or laser beams in space, you can't eat those things so there's no satisfaction to us as consumers, and also they're not investment goods. You can't use those things to produce things that you can eat either. Everybody knows that arms spending is just sheer waste. The best you can hope for is you'll never use them — and then they're wasted. And if you ever did use them, you'd waste everything in the world, perhaps. So that is a very very powerful point. Any way you use the money now being spent on arms, you'll be better off.

Ernie Regehr
And by virtue of the defence development and production sharing arrangements between Canada and the United States, any military money spent in Canada by the U.S. department of defence in fact has to be reciprocated by Canada in the United States. That is to say, if the United States places a $50 million Star Wars related research and development contract in this country, ultimately, by virtue of the agreement that the trade between the two countries will be kept in rough balance, Canada must spend $50 million in the United States. So that it in fact is not new money that is coming into Canada. Virtually every dollar of U.S. money spent in Canada for military purposes requires the expenditure of a Canadian dollar in the United States.

Max Allen
That seems to me to be the heart of the matter. And Mr. Mulroney's recent announcement that the government of Canada isn't going to participate in Star Wars research doesn't change any of this at all. The balance still has to be maintained between the two countries in military contracts, so Canadian money still goes to the U.S. whether Canada is doing the research "officially" or not.

Prime Minister Brian Mulroney
On March 26, the United States invited Canada and other friendly countries to participate directly in research under the Strategic Defence Initiative. After careful and detailed consideration, the government of Canada has concluded that Canada's own policies and priorities do not warrant a government to government effort in support of SDI research.

Max Allen
Now that makes it sound like we've been beating a dead horse here on the question of Canadian involvement in Star Wars research; if you just take it on its face, it sounds like we're not going to pay for any. And that, as far as I can see, is a very sound decision economically. But it would have had more impact if the back door to the bank hadn't been deliberately left open. And that back door is labelled DIPP, which stands for...

Peter Chapman
The Defence Industry Productivity Program.

Max Allen
How's it work?

Peter Chapman
It's a program of the federal government to sustain a defence industry in Canada. When Canada joined with the United States to create sort of a common market in defence goods, it was felt that Canadian contractors didn't have equal acces to that common market. They had to have some program that would help them compete with big American firms for contracts with the Pentagon. So the Canadian government devised a program whereby a Canadian company can get grants from the federal government in order to fund development of product for export. That's called the Defence Industry Productivity Program.

Max Allen
Ottawa hands them a bag of money.

Peter Chapman
Every year.

Max Allen
And then they bid on American military contracts, and get that work, and make the usual industrial arrangements, and then they pay back the money to Ottawa?

Peter Chapman
No.

Max Allen
They don't pay Ottawa back?

Peter Chapman
No, it's a grant.

Max Allen
So that's where the economic aspect of Star Wars research stands now. What will we do when it comes time for the deployment of Star Wars machinery, assuming there is any? Maybe we'll say, no thank you, not here, it's not in our "national interest" ut Jack Granatstein thinks that's just impossible...

Jack Granatstein
We have no option — and I would think we never have had, ever since the Diefenbaker nuclear arms business in the early '60s — of exercising any freedom of action. Diefenbaker jousted with the Americans and he got knocked off his horse, and he was out of power and the Americans had demonstrated that they could influence the way the Canadian government functioned and that the Canadian people on a crunch issue would vote in effect the way the Americans wanted them. So I think that issue is settled. We can't any longer interfere in those areas where there is crucial American interest involved. Where crucial American defence interest is involved, we have no freedom of action.

Owen Wilkes
It's very interesting to see in different countries around the Arctic how the United States has basically got the installations that it wants, one way or another, despite the various political constraints that are operating. So I guess going from Norway and heading westwards, Norway has a policy of having no foreign bases or foreign troops on its soil whatsoever, and yet it turns out that there is a whole range of facilities in Norway which are being operated for the United States at United States' expense, to the United States' instructions, and built to the United States' specifications. And the only way in which they're not a United States base is that they're operated by Norwegian personnel. So they have installations there for monitoring everything that the Russians are doing in Murmansk and places like that, electronic spying facilities in particular for listening to the testing of Soviet missiles at Pleysk and the naval operations out of Murmansk. There's underwater listening devices, a so-called SOSIS system being operated by the Norwegians and that sort of thing. Then you can go to the Faeroes, I suppose. The Faeroes are a Danish territory and the Danish also have a policy of not having foreign bases on their soil, but they manage to ignore it quite well in the case of the Faeroe Islands. Iceland was occupied by the United States for the duration of World War II and they were supposed to get out at the end of World War II, but they stayed on under one pretext or another and they've gradually worn down the Icelandic opposition to military activities. So again they have devices for listening to submarines, they have the Keflavik air base with lots of surveillance aircraft operating out of it for keeping check on anything that the Russians are doing in the Arctic and in the North Atlantic gap and so on, radar stations. In Greenland, most of the American activity is around Thule air base, which was originally a Strategic Air Command base involved in the plans for nuclear bombing of the Soviet Union. It's now more useful for surveillance activities and that sort of thing. You have the spy aircraft and so on operating out of there. There's also a quite important military spy satellite and ground station at Thule.

Jack Granatstein
I don't think if there is an American defence presence in the north that that upsets many Canadians, because very few Canadians have ever been to the north, go to the north, know where it is. I don't think that matters very much to most Canadian people. It should, but it doesn't. So I don't really see political will as suddenly developing. The other thing, I guess, is that if there's anything that's more clear, to me at least, than it was 20 years ago, it's that the Americanization of Canada is much more advanced than it was then. In attitudes, I think that we are very much Americans.

Stephen Dale
If Canada were to act independently in some small way on some of the major issues, the issues of war and peace which are all important — if we were to take perhaps symbolic steps and defy the American will in the Canadian north, what about the prospect for economic sanctions against Canada? Is it real or is it mostly imaginary?

Jack Granatstein
Well, I think it's probably real. I don't see the Americans closing the border and saying nobody can go in and no Florida oranges can come to Toronto, because obviously that hurts their interest. But for example, when Trudeau put in the National Energy Program, the Americans were certainly unhappy. And they had all sorts of friends in Canada, people in the oil industry who saw that if the Americans were unhappy, they had to be unhappy. People who saw that their interests were being hurt. And there was terrific pressure from Alberta, from British Columbia, from the oil interests in those areas, from a lot of businessmen in Toronto, from people who play the market and who had oil stocks and a variety of things like that, their interests were being hurt. What I'm saying is that the Americans had and would have on every issue that I can think of, a large constituency in Canada that would make the case for them.

How long did the National Energy Program last? It lasted about four years. Trudeau and company were beginning to water it down before they left. Mulroney is dismantling it as fast as he can. We had the Foreign Investment Review Agency, which was a paper tiger at its best. It is now turned by the Mulroney government into Investment Canada, the purpose of which is not to keep out investment, but to seek out investment. Why? Well, the Americans more or less made it very clear to us that they were unhappy with that. And Reagan and Mulroney talked about it, and Reagan gave Mr. Mulroney the end of the National Energy Program, the end of the FIRA. Did he get anything for them? So far as we know, he got nothing hard.

The point is that, for a variety of domestic reasons, the American concerns were made very forcefully by elements of the business community, to the government of the day. And the government of the day caved in. I think the lesson of 1963 was learned very clearly by Canadian governments. They recognized that the Americans had enormous power to cause difficulty for a government here. They recognized that the Canadian people, the voters, basically believed in the same things that the Americans believed in. They wanted a strong defence against the Russians. They wanted their government to play its part in defending against the Russians. And after 20 more years of American television, of exposure to American media, of exposure to American ideas, of seeing their governments by and large do what the Americans wanted — I don't see any reason to believe that the Canadian people are any more independent minded now than they were then.

Ursula Franklin
I'm Ursula Franklin, and like Professor Granatstein I've been involved in political issues related to foreign policy, peace and disarmament for a long time. I do not agree quite with his interpretation that one can project from 1963 to 1985 and say it's just more of the same. Actually, I think things are quite different.

Look, for instance, at the public opinion poll that was published on August 10 in the Globe and Mail. Canadians were asked whether or not Canada should support the research into the Strategic Defence Initiative. The part that interests me in that is not only that almost half of all Canadians had some reservations about it, but the fact that only 2 percent had no opinion. And that, I think, contradicts the idea that Canadians don't care. They may have different views on how to deal with the situation, but it is certainly not so that they are indifferent. Two percent of people in any public opinion poll saying that they are indifferent is an exceptionally low percentage. And that same state of affairs can be seen in the great increase of organizations between that time of '63 and '85 that have particular targets in the area of peace and disarmament. If you look from the Lawyers for Social Responsibility, to the Physicians, to the Veterans for Multinational Disarmament, none of that existed, even in its most embryonic form, in '63. In fact, when people like myself and organizations like Voice of Women made presentations to parliamentary committees, those who during the Vietnam War were opposed to Canadian foreign policy could be accommodated in one afternoon in Ottawa. Today, a parliamentary committee hearing of Star Wars has to go across the country and gets a very large number of submissions, not only from those who by affiliation and doctrine are in principle for or against, but an amazingly large number of interventions have come from those who as private citizens wish to express their opinion on these crucial questions. It seems to me therefore that there is a very fine opportunity in 1985 for the government of Canada to act decisively, with substantial public support, particularly if innovative alternatives are put forward and the

problem is not just cast into the question of whether to say yes or no to what the United States says. It is a time for fresh ideas and a different approach.

Lister Sinclair
Ideas about the Northern Front continues tomorrow night, emphasizing one of those different approaches -- the idea that the north is a place, not a frontier. The Northern Front is produced for Ideas by Max Allen.

PART III

Lister Sinclair
Ideas about the Northern Front.

Ursula Franklin
If one divides the world into the two major power blocs, the borders between those two blocs are very heavily militarized. But what is left is the northern front, the one and only area in which we do not yet find weapons systems stationed on the ground. For a long time the north has been a listening post and a natural barrier. This seems to change now.

Thomas Berger
The whole question of international responsibilities in the circumpolar basin is something to which we just haven't applied our minds.

Jack Granatstein
I take a very dark view of Soviet aims and intentions and I think anyone who doesn't these days is simply putting their head in the sand. Unfortunately it's also hard not to take a very dark view of American aims and intention.

David Cox
American tactical air defence planners would like to see a large number of bases in the arctic, bases that would be able to handle both AWACS aircraft — Airborne Warning and Control System aircraft -- and advanced fighters who would be able to engage Soviet cruise missile carrying bombers before they had released their missiles.

Robert Reford
If you look at a map with the north pole in the middle, you will see the Soviet Union one one side and North America on the other. If either side were to launch missiles to attack the other they would go over the north pole, over the arctic.

Lister Sinclair
This is Ideas. The third program in a series called The Northern Front, prepared by an Ideas team of four people: reporters Kevin McMahon and Stephen Dale, analyst Peter Chapman and physicist Ursula Franklin.

Kevin McMahon
I'm Kevin McMahon. Most of our discussions in these programs so far have been about hardware — what kinds of weapons systems are planned in and over the north — and about the kinds of military strategies these weapons are connected with. In this hour, we'll get away from the bombers and missiles and radars and talk about an alternative view of the north, not as a frontier but as a place where peace might begin, not war.

By way of getting there, we need to find out what impact military systems have already had on the Arctic and on the people who live there. I'll tell you about what the DEW Line has meant -- DEW stands for Distant Early Warning, and it's the chain of radars across the north — and then how the DEW Line is being cleaned up and what's planned to replace it, and what effect the Luftwaffe -- that's the German air force -- is having on the native people of northern Quebec and Labrador. We'll hear from the Innu people, from Thomas Berger who wrote the royal commission report on the Mackenzie Valley pipeline, and from strategic analysts inside and outside the government.

Martin Shadwick
My name is Martin Shadwick. I'm a research associate with the York University research program in strategic studies, and also teach political science at York University.

The military facilities in the north are rather modest. There's a communications research facility at Alert in the far north, which in fact is closer to Moscow than it is to Ottawa. That gives an idea of the distances that we're talking of here.

It has a military staff of around 200 or so and it is engaged in communications research, although it is publicly known as well that it is involved in electronic monitoring of the region and intercepting messages and so on sent from other countries. So it's a combination research and intelligence gathering facility.

The DEW Line is one of the key facilities in the region, a network of several dozen radar stations in the far north, with some facilities in Alaska and Greenland, but most of them in Canada. This system is currently operated, for the most part, by the Canadian civilian employees of an ITT subsidiary under contract to the United States air force. And the United States in effect pays virtually all of the current operating costs of the DEW Line. The DEW Line's basic function was and is to provide an early warning capability, to monitor air traffic, principally military air traffic, but it does serve to monitor commercial aviation as well.

George Lindsay
One should remember that there are aircraft that get off course and don't file the proper flight plans, and things go wrong all the time. That's been the case ever since the DEW Line was built. So that it's not unusual to have one or two unidentified aircraft in the system, with people trying desperately to identify them. If one or two of them happened to be real Russian bombers, which they never have been, we couldn't be sure that we'd spot that for a while. Now, a couple of dozen would be a different matter -- you'd know there was something up then. So I think even with a perfect detection system, we would not be surprised if one or two unidentified flying machines got through and we didn't know it for a while. But a couple of dozen -- no, we'd know then.

Kevin McMahon
That's George Lindsay, who's chief of operations and research at the Department of National Defence. His point that a whole attack fleet of Russian bombers could not get through the DEW Line undetected is important because the DEW Line's supposed porosity is the rationale for rebuilding it into a new radar line called the North Warning System — at a cost of about a billion and a half dollars.

The DEW Line was the first huge military project in the north, and the North Warning System will probably be less disruptive, but the DEW Line does have some lessons to teach, and I went over to the Department of Indian and Northern Affairs to see what those lessons are.

Alan Jones
My name is Alan Jones, and I'll be going over to the North American Air Defence Modernization Project team to work with that team as the manager of the Northern Affairs portion of the project.

Kevin McMahon
Do you think that in general the experience of the DEW Line was a good experience for the north?

Alan Jones
Well, I -- that's a little difficult for me to answer. I guess a northerner could answer that better, and I suppose if you were to ask a northern native person, he would probably, if you asked two people, you would have one say yes and one say no. Like anything else, there's two sides to every coin.

Kevin McMahon
Do you have an idea of what kind of impact the DEW Line had on the communities where it was situated? Have you looked into this, or are you using that as any kind of base of experience?

Alan Jones
Well, to my knowledge there's been no formal hindcasting of the impact the DEW Line had on communities.

Kevin McMahon
Is the department making any attempt to try and find that out as some kind of guide to experience this time?

Alan Jones
No, I don't think so.

Kevin McMahon
So I dug around a little, talked to a few people and discovered Jack Ferguson in Windsor.

Jack Ferguson
I'm Jack Ferguson and I'm a professor of sociology at the University of Windsor. I spent about two and a half years in the western Arctic. They were just in the beginning phases of building the Distant Early Warning Line, or the DEW Line, and the Canadian government decided that they wanted to

send somebody up there in the summer of 1956 to really see what effect this construction was having upon the native people, the Inuit, or as they were called in those days, the Eskimos.

And so they sent me up to travel the DEW Line. And of course the DEW Line, because it went right along the Arctic coast throughout this entire area -- the DEW Line was pretty well affecting all of the population of this area, which I suppose at that time would be roughly about 10,000 people. The government was very interested in not only the question of what was happening to the native people, but what effect all of this vast construction and the presence of the U.S. air force and the presence of many Americans was going to have on Canadian sovereignty. And I often think that they really wanted me up there partly as a domestic spy to find out what the Americans were doing.

And I gradually came to realize that certainly at Cambridge Bay, that this was affecting all of the native people. There was a gigantic construction company site. Cambridge Bay was at that time one of the major DEW Line sites. All the able-bodied men between I suppose about 16 and 65 were working for the DEW Line, and of course they were also having certain difficulties because when they were working for the DEW Line, they were earning money but on the other hand, they weren't out hunting, so that they were not having anything for their families to live on. They really were not getting any caribou, they weren't getting any seals, they weren't getting any fish, they weren't getting anything that normally they would be living on. So it truly revolutionized, you might say, the occupations of the Inuit people in the western Arctic. It turned them from being hunters and trappers into being people that would be living on wage employment. And it also had quite an effect upon the children because it kept everybody living in the settlement, and therefore they weren't learning the traditional skills.

Now, the native people not only of the Arctic but of the sub-Arctic, the Indian population of the sub-Arctic, it seemed to be that their basic traditional culture was disappearing and they were very concerned that the DEW Line would really be sort of the last nail in the coffin for traditional culture. And I think it's fair to say that it probably was the last nail in the coffin in some aspects. But on the other hand, the traditional way of life had been going for a very long time.

Kevin McMahon
At the time when the construction of the DEW Line was begun, were the Inuit still going out onto the land, or were they primarily living in communities?

Jack Ferguson
No, at the time that the DEW Line started, at least in the area that's between Cambridge Bay and Boothia Peninsula, they were really living on the land in the summer and living on the ice in the winter. They were really pursuing a traditional life. They were trapping, they were catching seals, they were hunting caribou, they were fishing in the rivers in the spring and the summer and the fall, and it was certainly traditional there. Now, when you get further to the west in the Mackenzie River delta, the region of Inuvik and Tuktoyaktuk, there the people perhaps were congregated in villages, which they had always been, because the traditional life there had been one of villages and whale hunting. So although the areas are not the same, they were still affected very, very dramatically by this massive construction project.

Kevin McMahon
Can you recall any particular conversations with any of the people, perhaps any of the elders, in which you talked to them about what was happening in their communities to get a feeling of how they felt?

Jack Ferguson
One of the places where I lived was Tuktoyaktuk, where they'd had a lot of experience with white men, and suddenly they get about 300 white men descend on a settlement that has also about 300 native people. And there was one old guy named Joe Nishuk Gallowak, and Joe used to come by my tent most days, and he'd say "Too many mosquitoes." And I suddenly began to realize what he meant by mosquitoes was too many white people. He was somebody who was still living the traditional life, although his son was working at the DEW Line site. But he resented the fact that there were all these white people around, he resented the fact that his way of life, fishing basically, and whaling a little bit, was being disturbed by this, and he simply did not like the idea that his settlement was being invaded by a bunch of outsiders.

Kevin McMahon
Some of the results of that invasion are only now coming to light. Over time, some of the DEW Line sites became obsolete and were abandoned, but they did not, as it turns out, just go away.

Garth Bangay
My name is Garth Bangay. I'm director of land use planning for the Department of Indian and Northern Affairs, and I've been asked as a special assignment to organize the cleanup of hazardous materials at the 21 abandoned DEW Line sites located across Canada's north.

Kevin McMahon
What kind of condition are the abandoned sites in?

Garth Bangay
Well, the sites have been abandoned since 1963, so as you might expect, they're in almost all states of disrepair, although there are some which are still in mint condition. The climate and conditions in the Arctic are such that these sites often don't deteriorate very much. But a lot of the sites have been vandalized and a lot of the sites have been cannibalized. It's almost like they're your local hardware store in the north. There's a lot of building materials and equipment and so on that people have made use of.

Kevin McMahon
What happened when the military was finished with those sites? Did they simply walk away from them?

Garth Bangay
Yes. My understanding of the situation in '63 was that the military essentially drove to the runway, left the keys in the truck and got on their aircraft and left. And with the exception of a few small cleanup programs to try and get a handle on some of the scrap metal and so on at those sites, there has been virtually nothing else done.

Kevin McMahon
What is going to happen now?

Garth Bangay
Well now, since we identified the presence of polychlorinated biphenyls, or PCBs, we're embarking on a cleanup program, during which time we will be travelling to all of those 21 sites, identifying the equipment which contains the PCBs, putting that equipment in steel drums and moving it out from the sites.

Kevin McMahon
Can you talk a bit about one of the sites, basically sort of describe one of the sites that you've seen, to give people an idea of what they look like?

Garth Bangay
Well, the buildings and so on were called a building train. It's a very long building, very much like a train. There were modular units brought in, they comprised sleeping and kitchen quarters, and of course a very large electronic area. There are garages and equipment sheds, there are very large radio towers -- for the most part these have been brought to the ground for safety reasons, but as I indicated, most of the equipment is still there.

Kevin McMahon
Did you get an idea of how the people there now regard the DEW Line and what kind of effect it had on their lives?

Garth Bangay
I think one thing that was very clear in all of our discussions was that people are sceptical of the past efforts of governments. They see the results now of the DEW Line system — PCBs weren't a hazard, now they are a hazard. They're asking the same questions. For instance, when I was in Hall Beach, a councillor asked me well, we were told when you built the original DEW Line there was no problem. Now you're telling us there is. Now you'll be asking us to help you with the new North Warning System. You'll tell us there are no problems. Twenty years from now, what will we find?

How can you answer that kind of concern? There really isn't an answer, but it's clear that they have that concern and they have good reason for it.

Kevin McMahon
I have to bring up the famous memo, which I'm sure you're well aware of. You've been quoted in a Canadian Press story as having issued a memo which said, according to the Canadian Press story, essentially that the cleanup of the DEW Line should be undertaken to forestall an outcry over the North Warning System. Is that the gist of what you said?

Garth Bangay
Well, I think that that story unfortunately, as

stories sometimes do, took me somewhat out of context. At the time of writing that letter, I was merely indicating to my minister, who at that time was a new minister, some of the factors which needed to be considered. It was the first he was made aware of the situation, in fact I'd only been recently made aware of it myself. And it was clear that we were identifying all the things that needed to be considered in making decisions about the PCB cleanup.

Kevin McMahon
The Inuit people, as represented by the Inuit Tapirisat, have sort of demanded that no more military installations be put in the north. I know this is a political question, but do you think Indian and Northern Affairs has the responsibility to advocate the Inuit position, regardless of whether or not the department necessarily agrees with it? Do you have any responsibility to be kind of a voice for them or to put their voice across?

Alan Jones
Well, yes, that is really a political question. I guess I can't give you a very complete answer on that, except that certainly our minister has a responsibility to the people of the north and to the Inuit of the north, and through him they will want to have a voice in what happens up there. I think the northern people are now aware that there is going to be a North American air defence modernization program taking place, and it will be our job in the project office to make sure that they understand what it is, what it looks like, how it's going to built, when it's going to be built. And I think at that point they'll have an opportunity to formulate a lot better opinion on what they feel about it. Because I think, in all fairness to them, they really don't know more than perhaps any other Canadians at this particular point what it really is all about.

Kevin McMahon
In all fairness to the department, it sounds to me like it's their job to describe what it's all about in a way that will make the northern people say "okay." I went back to Jack Ferguson with this question.

Do you think that when the DEW Line was being planned much consideration was given to the impact that it might have on the north, on the Inuit people, and I suppose on the environment? I'm thinking of forethought rather than —

Jack Ferguson
I don't think they gave any thought to that. They thought first of military security, and there was a great fear at that point -- you know, when it was being built, there was this great fear of the Russians, and so I think that the military considerations went first and the welfare of the native people was only thought of as an afterthought.

Kevin McMahon
And that's a pattern that's being repeated today. On the DEW Line, it was the unexamined hazards of PCBs. On the North Warning Line, it's the projected use of nuclear reactors, built by Atomic Energy of Canada Limited, a crown corporation.

David MacDougall
My name is Dave MacDougall, and I'm responsible for the marketing effort in the small reactors.

Kevin McMahon
Can you generally describe what the reactors that are being considered for the North Warning System look like and what their capacity is?

David MacDougall
We have completed a conceptual design on a tiny reactor that would fit inside a typical room.

Kevin McMahon
What kind of uranium does it use?

David MacDougall
It uses uranium enriched to something less than 20 percent. There's approximately 70 to 80 kg of fuel involved.

Kevin McMahon
Where would that uranium come from?

David MacDougall
Canada's the largest supplier of uranium, so it would come from there, but the enrichment could not take place in Canada.

Kevin McMahon
And the enrichment would have to be done in the United States?

David MacDougall
Yes.

Kevin McMahon
Where does the idea for this reactor come from? I mean, have there ever been other reactors like this?

David MacDougall
There are operating graphite moderated reactors. It's a U.S. idea.

Kevin McMahon
The Americans are saying that AECL has

committed $2½ million to this project for this year. This information comes from a U.S. department of energy document. Do you know about this document and is that what AECL has committed to it?

David MacDougall
The Americans in their budgetary process have to detail specific projects for all the funds that are earmarked. In Canada, our budgetary process is somewhat different. The Americans put in their expectations at that time, and those expectations have not been yet firmed up.

Kevin McMahon
Just to stay with that document for a minute, they also say in it that a demonstration model of this reactor is going to be built in '86 and that two prototypes are planned for installation in '87. Does that jibe with your plans?

David MacDougall
That is one possible outcome of our planning.

Owen Wilkes
The history of nuclear power generation in the polar regions so far has been a pretty disastrous one. I'm surprised that they should be considering it again. The U.S. navy and the army got into this sort of thing in the very early '60s and they expressed very great optimism about how nuclear power was going to solve all the problems of operating remote military stations. So they tried it in a couple of places. They tried it in Greenland when they built an experimental under-ice military based called Camp Century, and it proved to be quite disastrous there. They had to get permission from the Danish government to dump large quantities of low level radioactive waste in the ice cap. They melted out a great chamber with all the warm radioactive water and that radioactive water froze there, and it's still sealed in the ice cap somewhere. They only kept running for a couple of years, I think, and the technical difficulties forced them to give up. Amongst other things, the reactor released so much heat into the living spaces that the under-ice base was threatening to collapse all around them.

The other place this was done was in the Antarctic when the navy built a station which they called Nukey Poo at McMurdo Sound in Antarctica, and there was a lot more publicity focussed on that one because of all the hoo-hah about peaceful scientific research in Antarctica and the Antarctic Treaty and that sort of thing. And so they struggled to keep that one running for ten years, but it turned out that when it eventually closed down it also had had quite a disastrous history. They'd had a hydrogen fire in the containment vessel way back in the early days of its operation. They eventually closed it down because there was stress corrosion cracking in the pressure vessel and they suspected this might lead to a leak. And after they had spent three years dismantling the thing and carting all the bits and pieces away, the U.S. Nuclear Regulatory Commission came down and had a look at the site and declared that there was still quite a few thousand tons of radioactive soil that had to be cleared away. So the navy had to set to work, and they eventually dug up 13,000 tons of contaminated soil and shipped it all back to California.

So the history of that is that small nuclear power plants just weren't economical. Antarctica is the first continent to have actually been through the whole nuclear age — it got into the nuclear age on economic grounds and it got out of the nuclear age on economic grounds. There's no way they could make a small reactor safe enough to be operated — the kind of safety requirements and the number of personnel to monitor the safety were just as big for a small nuclear power plant as they were for a big one. Whether modern control techniques and so on have eliminated those problems I wouldn't know, but I would be very suspicious of any attempt to reintroduce nuclear power into those sort of operations.

Kevin McMahon
The Inuit people have said that they do not want any reactors in the north. Is AECL concerned about opposition or concerned about their feelings in this matter?

David MacDougall
Well, I don't believe we have any choice in that area. That land belongs to the Inuit.

Kevin McMahon
Does that mean if they say they don't want reactors, you will say okay, we won't put any reactors up there?

David MacDougall
That means that if they say no, then we'd want to

sit down and talk to them and find out why, and make sure that we each understood each other's position.

Kevin McMahon
Have you talked to any of the Inuit? I mean, have you got any kind of contact with them, trying to work out any kind of position on this?

David MacDougall
No. Again, we see it as being too early to do that.

Lister Sinclair
"Circumpolar Conference, Resolution 83-01, dated July 29, 1983. Now, therefore, be it resolved that the Inuit Circumpolar Conference emphatically restates its position that there shall be no nuclear testing or nuclear devices in the Arctic or sub-Arctic. And furthermore be it resolved that Atomic Energy of Canada Limited be notified of our opposition to the testing of nuclear reactors in the Canadian Arctic or sub-Arctic and that they be notified to refrain from such tests."

Garth Bangay
Up until now, the Inuit have had very little to say about what has been done for them, because it's usually been done in Ottawa or at least some distance away where decisions were made. And I think they have a growing feeling that they should have some rights in their own land, and this is also tied in with the whole question of land claims, which of course have not been resolved in the Arctic at all, as has been done in Alaska. When they're talking about no military up there, I suspect that this is just part of the larger question of what rights do they have in the area in which they're living.

Kim Nossal
It's quite clear that the Inuit are not happy and if we were up there, I doubt very much whether this kind of introduction of technology and hardware into our environment would be that welcome either. The essential problem is that the Inuit numerically are relatively small, and therefore from a government's point of view, politically, electorally insignificant. What it means is that the government is expected, at least by decision makers in Washington, to handle this "domestic problem." Let me put it this way. Certainly the interests of the Inuit are unlikely to cause American strategic planners to rethink their vision for Canada's north.

Peter Penashue
Where we are is called Ntesinan, our land.

Kevin McMahon
When Peter Penashue talks about "our land," what is he talking about, really?

Peter Chapman
He's talking about an area of Quebec and Labrador lying north of the St. Lawrence River.

Kevin McMahon
This is Peter Chapman I'm talking to. Peter, you were at a conference of Innu people this summer near Goose Bay. Innu doesn't mean Inuit.

Peter Chapman
No, the Innu and the Inuit are two completely different peoples. The Innu and the Inuit both live in Labrador, and in some areas intermingle, but they're quite distinct. They Innu are inland caribou hunters.

Kevin McMahon
How are the Innu people being affected by military activity in Labrador?

Peter Chapman
The main problem they're experiencing is with low level flight training. The British air force and the Luftwaffe — that's the West German air force — are using the former American military base at Goose Bay as a centre of operations for conducting low level flight training for fighter aircraft. And by low level, this means down to a few hundred feet above the ground, and in some isolated cases the Innu have reported them flying very low, under 100 feet.

Kevin McMahon
Why do fighters need to learn how to fly a few hundred feet above the ground?

Peter Chapman
Well, in NATO war planning, low level flight is extremely important as a means of avoiding detection by radar, and in particular, recent doctrinal changes on the part of NATO have emphasized the ability of offensive air support to reach far into the Warsaw Pact territory. And so it's becoming increasingly important as part of

NATO planning for war to be able to fly at extremely low altitudes underneath the radar coverage to get far into Poland or Czechoslovakia. It's called deep strike or follow-on forward attack. And there are in fact plans for increasing the use of Goose Bay. The big proposal which is on the table right now is to create a unified NATO tactical fighter weapons training range or centre, and this would be a facility somewhat like what exists at Cold Lake, Alberta, where they have a highly electronically instrumented range where the aircraft fly. And they would fly at very low altitudes like they're doing now, they would also fly air to air combat, and they would practice air to sea attack as well.

Kevin McMahon
Why are we keen to have these people training here?

Peter Chapman
Well, Goose Bay was established originally during the Second World War, and then after the war it was built up by the Americans as a very large base, and the community built up around it. When the Americans pulled out in the mid-'70s, it left the community stranded. And the government's solution to economic development in the region is to seek another kind of military activity. The government acknowledges that low level flight training has no particular significance to the defence of Canada, but this is a service that we can provide to the allies in NATO, and in fact the government views it as a form of foreign investment -- just like inviting Michelin Tire in, they invite NATO in. No one so far as asked the Innu how they feel about this proposal. The Innu for years have been affected by low level flying, and as the pace of low level flying is increased, the Innu protests have increased. And so most recently all the chiefs from the various Innu villages in Quebec and Labrador gathered and came up with a resolution unanimously opposing low level flying.

Kevin McMahon
Thanks, Peter. This is Remy de Roo, Bishop of Victoria.

Remy de Roo
You have groups of people in the north who traditionally have seen this as their homeland. They are now being invaded. Ecologically it has great danger in terms of the disruption of the very delicate balance. Also from a broader ethical perspective, the short term apparent advantages -- and I say apparent because many of them are very questionable -- are taking priority over a long term consideration of the kind of society that we want in the north of Canada and the well being of the peoples who live there and their right to shape their own long term future.

Gregory Penashue
We've been here at least 7 to 8,000 years. We have our own sovereignty. We never gave it up to anyone, federal or provincial.

Peter Chapman
Have you been communicating with the military about your opposition to the low level flying?

Gregory Penashue
Well, we had our first communications with the military back in 1980. But then the Innu people already said no to the military people, and of course we don't want anything to do with the military because our people always been very good to one another, and they don't believe in war. And our relationship with the armed forces people or the military people has not been very good at all because I think they see themselves as being very free and not really caring for our life, and they usually do whatever they please here.

Kevin McMahon
Lois Kunkle of Project North.

Lois Kunkle
The Innu live in the north shore of Quebec and in Labrador, and for the communities of La Romaine, and St. Augustine, particularly La Romaine, they in fact could not go back on the land last fall. So an activity, a natural rhythm activity in which you come into the community and then you go back onto the land, and then you gather again and you go back on the land, was disrupted for them because of the low level flying. Because when they were in the camps on the land and the men who normally would leave the main camp and go out into the hills to hunt the caribou and would leave for two or three days, they felt like they were unable to do that because they could not promise their families that they would be safe and that they wouldn't be overflown. And there are countless stories of camps being overflown, not just one, but they know that some flyers — because they're restricted in their overflights in more populated

areas — just take a great thrill in flying low over their camps and will come back two or three times.

Kevin McMahon
This is Michael Pasteen.

Michael Pasteen (in translation)
Over the camp, where they were, the flights weren't that low, but on the lake the military just flew very low, like 50 feet, like they made ripples in the water. Because of the low flights, the fish tend to be in the deep water, they don't come to shore because of the flights. And, one time they were in the canoe paddling along the shore, they saw jets flying over on their lake close by, like they were about tree level height. They made big ripples on the lake as they went by. He could see both the pilot's faces. He saw their faces, that's how close they were.

Peter Chapman
At the base, they've established this military coordinating centre, and they said that if you go in and tell them where you're going to camp, that they like that because then put down that this is an enemy emplacement. They say that Gregory Penashue's camp is a missile site, so avoid it. And they've said that's great, they're happy to do that and they'll give you a three mile radius around the camp and no jets will come near. Why doesn't that work?

Gregory Penashue
Innu people don't usually go to one place all the time, you know, and that would still affect the animals that are there. You might not be able to have a proper growth in terms of the animals' growing. The animals are usually very sensitive almost to anything, gas or anything that's very noisy. I'll tell you an example. When Innu people bother a beaver dam, the beavers just walk out. Sometimes they go to a different place. And that might happen, it will happen if there's constantly jet aircraft flying to each place and there won't be any animals at all. Any kind of animals.

Peter Chapman
When do you go to the country?

Peter Penashue
People from here go six months of the year, in the fall three months, in the spring three months.

Lois Kunkle
For native people who have lived in the land like that, whose whole culture is tied to this movement on the land, whose philosophy is tied to that, whose religious beliefs, whose music, whose poetry is tied to the land, when you see an encroachment like particularly with military use, either the cruise or with the DEW Line upgrading or for the Innu, the overflights — they feel like they're under siege.

Peter Chapman
When I was in Goose Bay and all the aircraft were going over, I thought, this is like war.

Lois Kunkle
And an industry that kills people is astonishing to them in the way that they hold the world and how they see the world, and how they live in their own world. And where we talk about needing to have certain kinds of military activity in Canada as security or for our stablity, for them that's going to cause them insecurity, it's going to move them off the land into small communities where they hate to live. The Innu in Labrador have called those communities prisons. They see this very militarism which is for our security as restricting them from their lands and their life, and hence their ability to live as free people.

Peter Penashue
In order for any nation to give freedom to the world, you have to give freedom to the people who live in that country. If it is in Canada, then the Innu people need to be given that freedom, that freedom to live as they choose.

Lois Kunkle
I know from the military in Goose Bay that they have said that the Innu can have self-determination, that's just fine with them because the Innu will be on the land and they'll be in the air. Well, that's one sense of nationhood I suppose. It would be like Canada saying well, the U.S. can fly over us but because we live on the land — it's a bit crazy actually. The Innu live in a land that has been unsurrendered. It is not in treaty to Canada and there is no modern day agreement. So really in international covenants, Canadians are living in the Innu homeland without permission. So what we are hoping through constitutional process in Ottawa and with the federal government is that native nations will be able to self-govern in their own territory. And that will mean even the

military will have to seek agreement with native peoples to be in their homeland for various uses.

Peter Penashue
It is very hard for the Canadian general public to understand when I say "the country." I am not talking about farms, I am not talking about ranches. The Canadian public doesn't realize or have any concept. To them it's backward, but to people who live that life, it is not backward, it is the life that hasn't yet in global terms modernized itself. But people like that life because it's their own, and you don't need a computer to live in the country.

Michael Pasteen (in translation)
He said he's 83 years old right now and he was raised in the country and he himself hunted and trapped, and trapped all these animals, and that's how he was raised. He said he doesn't approve of this militarization of their land, other nationalities coming into his country.

Lois Kunkle
They talk about their land as if it was a person. They call it our mother, and they talk about hurting the land as if it was cutting your own flesh. So any of these violations of their homeland, particularly without their consent, are seen as violations of a person. And we saw this even during the '70s with the Mackenzie pipeline debate, and with all of the proposals for the north that had to do with resource development. Much the way we talked about the north then is the way that people in the military talk about the north now, as a vast, uninhabited territory, just waiting like a frontier to be used. They see it as in between where real people live in the south of Canada and the Soviet Union, and that we can play around with the north as if it didn't belong to anyone or it didn't have a sense for other people that it was different, that it wasn't just real estate.

Kevin McMahon
If we southerners have any real awareness of the north at all, it's likely as not due to the work of Thomas Berger. In 1974, as a justice of the British Columbia Supreme Court, he was appointed royal commissioner to look into the question of building a Mackenzie Valley pipeline. His commission hearings were unprecedented. He took evidence all through the western Arctic and sat listening, month in and month out. Then, after three years, Mr. Justice Berger brought the north to the south. His report, in two volumes packed with information and new ideas, said the Mackenzie Valley pipeline should not be built, and it wasn't.

Ursula Franklin
I'm Ursula Franklin. After a decade, the Berger report looks even more impressive than it was at the time when it was first delivered. One looks with different eyes now at the arguments that triggered the specific investigation in the first place. It is quite apparent how much of the sense of urgency that one sees in the individual submissions, that now-or-never, do-or-die atmosphere that was created, was artificial. There was that talk about freezing in the dark that now looks like a shallow joke.

Ten years later, it is quite apparent that the energy crisis was not solved from the supply side, but from the demand side. And in general I think we should remember that in a crisis situation, there are two possible approaches. One can throw more supplies at the depleting pot, or one can look at the demand and adjust the need to the available resources. It is very clear that the energy crisis was solved from the demand side.

It seems to me that the issue of national security can be analyzed under the same headings. One can throw more and more military supplies in the hope to produce more and more effective security. One can also look at the demand side and ask what kind of protection do we need, protection from whom, and how can we get that protection?

Because Mr. Justice Berger's report is such a precise blueprint for any form of activity in the north, I wanted to talk to him about the present situation.

Who in fact owns the north? Who is the landlord?

Thomas Berger
I think what it comes down to is this, that over the last decade the government of Canada has acknowledged that even though in the eyes of the other nations it is the proprietor of the north, the landlord, it has an obligation, a moral obligation and an obligation I think that it now understands is based on law, to settle the claims of the native people, and that until they are settled, until a fair accommodation is worked out with the native

peoples of the north, development as we understand it cannot really go ahead.

Ursula Franklin
Now we are going into a phase where the development is not directly commercial, but the next phase of that development will be military. As you know, the North Warning Line not only means more and more extensive both manned and unmanned stations, but also airfields, hangers, missile storage. It's now not the commercial companies, but the military.

Thomas Berger
I don't think it's just a question of keeping the American military out, I think it's a question of keeping the Soviet military out as well. I think that both superpowers think of the circumpolar basin as a kind of military playground or potential military playground. The Inuit, the Eskimos who live in the circumpolar region, have their own international organization, the Inuit Circumpolar Conference. At its last assembly in Frobisher Bay in 1983, Inuit — Eskimos from Alaska, Canada and Greenland — passed a resolution supporting the idea that the Arctic should remain free of nuclear weapons and free of nuclear submarines, that it should be a nuclear-free zone. I think that the moral for us is that the views that have been expressed so tellingly by the native peoples of the far north are going to make a difference in the councils of the nations.

There is an international treaty covering Antarctica to which all the great powers have subscribed, and under it, Antarctica is to remain a nuclear-free zone. If they can reach such an agreement about Antarctica, maybe they can reach such an agreement about the Arctic. It is in everyone's interests -- Soviet, American, Canadian, Scandinavian -- to make this a nuclear-free zone and to demilitarize it and to spend some of that money that we are throwing into military research and development now on protecting the marine systems and the weather systems of the Arctic from the impact that we already see beginning.

When I made my recommendations back in 1977, the main recommendations regarding the Arctic gas pipeline, regarding the protection of the northern Yukon, even regarding land claims — those recommendations have more or less been followed over the years. It seems to me that the recommendation I made regarding an international program to protect the circumpolar basin was not pursued because it didn't seem to be of immediate concern to the government of Canada. You know, as late as the 1950s, Prime Minister St. Laurent said that Canada had governed the north in a state of absentmindedness.

Ursula Franklin
One of the difficulties, I think, in discussions of the north is that there is really no set of debatable proposals -- we could do this, we could do that. The north has always been most important just because it was there. So that to lift it to a real part of Canada needs possibilities outlined — that there are things that are in fact possible to do, that there are choices that can and must be made.

Thomas Berger
Well, it seems to me that our prime minister —and this is an initiative that Prime Minister Mulroney could undertake — could say look, Canada has as big a stake in the future of the Arctic, the whole circumpolar basin, as big a stake as any nation in the world, and we would like the circumpolar countries -- United States, Soviet Union, Scandinavian countries, Greenland, Canada -- to get together and to start planning a program to make sure that we don't destroy the circumpolar basin either through unimpeded and unchecked industrial development or through militarization. I think it offers an opportunity for Mr. Mulroney to undertake his own initiative in an area where the great powers can't say go home, kid, this is none of your business. This is our business. This is where we live. The north is probably what Canadians think of as distinguishing them from Americans. We're a northern people with a northern history. The north is part of our psyche. Those great silent open places are part of our idea of Canada. Even if we never get out of Vancouver or Toronto or Montreal, we know that that's part of our history and part of us. Canada has the opportunity to approach the other powers and to try to work this out, and I think that we can claim that it's our turf. We can say to the great powers, you've got to listen to us.

I think that we have to ask ourselves: sovereignty for what? And my view is that if Canada is going to assert its sovereignty over the Arctic archipelago and over the waters of the Northwest Passage, it ought to have a good reason. There is a good reason, and that is to protect the habitat for

this generation and all generations to come, to work closely with Arctic native peoples in establishing an international program to keep the Arctic nuclear free, and to ensure that peaceful development, oil and gas exploration and development, mineral development, that all of these things do not jeopardize the Arctic environment in generations to come. That, it seems to me, is the agenda that Canada ought to have in the Arctic. That takes us beyond sovereignty and I think that's the direction in which all the nations have to go -- international cooperation, because that's what lies beyond sovereignty.

Lister Sinclair
Ideas about the Northern Front is available as a printed transcript. All three programs in the series are included. The cost is $5.00 for the set, and you can order a copy from CBC Transcripts, Station A, Toronto M5W 1E6. Or if you'd like a free reading list of books and articles about the issues we've discussed in these programs, just write to us here at Ideas, same address, Box 500, Station A, Toronto M5W 1E6.

The reading list includes material by the four people who made the series. Reporters Kevin McMahon from the St. Catharine Standard and Stephen Dale from NOW magazine, analyst Peter Chapman from Project Ploughshares, and University of Toronto physicist Ursula Franklin.

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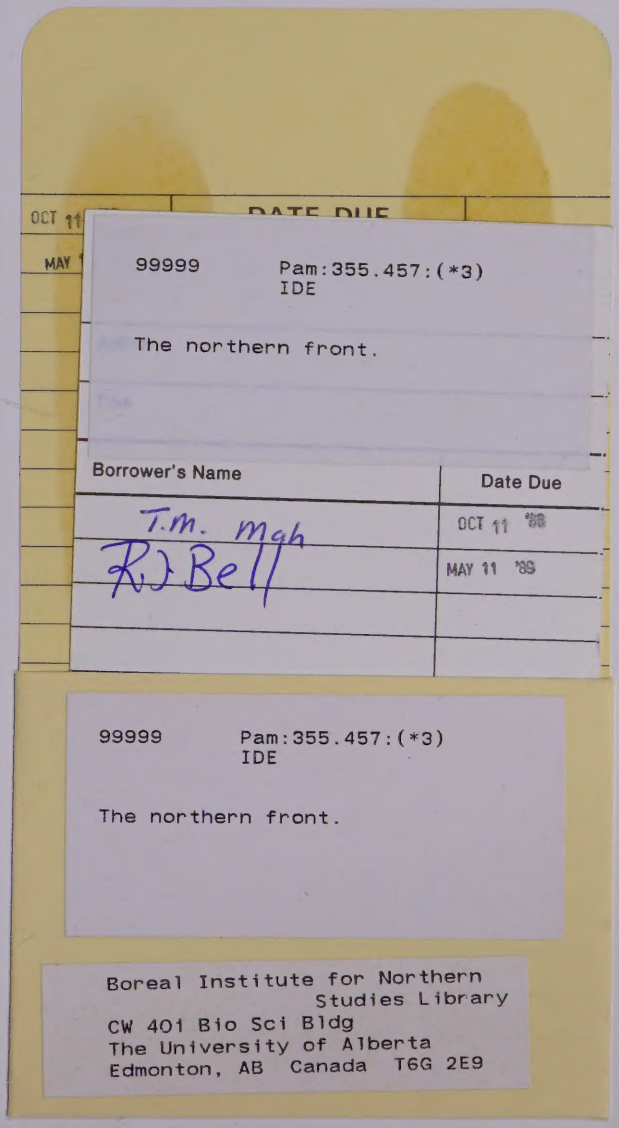

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